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NEW MEXICO STATEWIDE WILDERNESS STUDY

VOLUME 4: APPENDICES WILDERNESS ANALYSIS REPORTS



U.S. Department of the Interior, Bureau of Land Management
New Mexico State Office, Santa Fe, NM
January 1988

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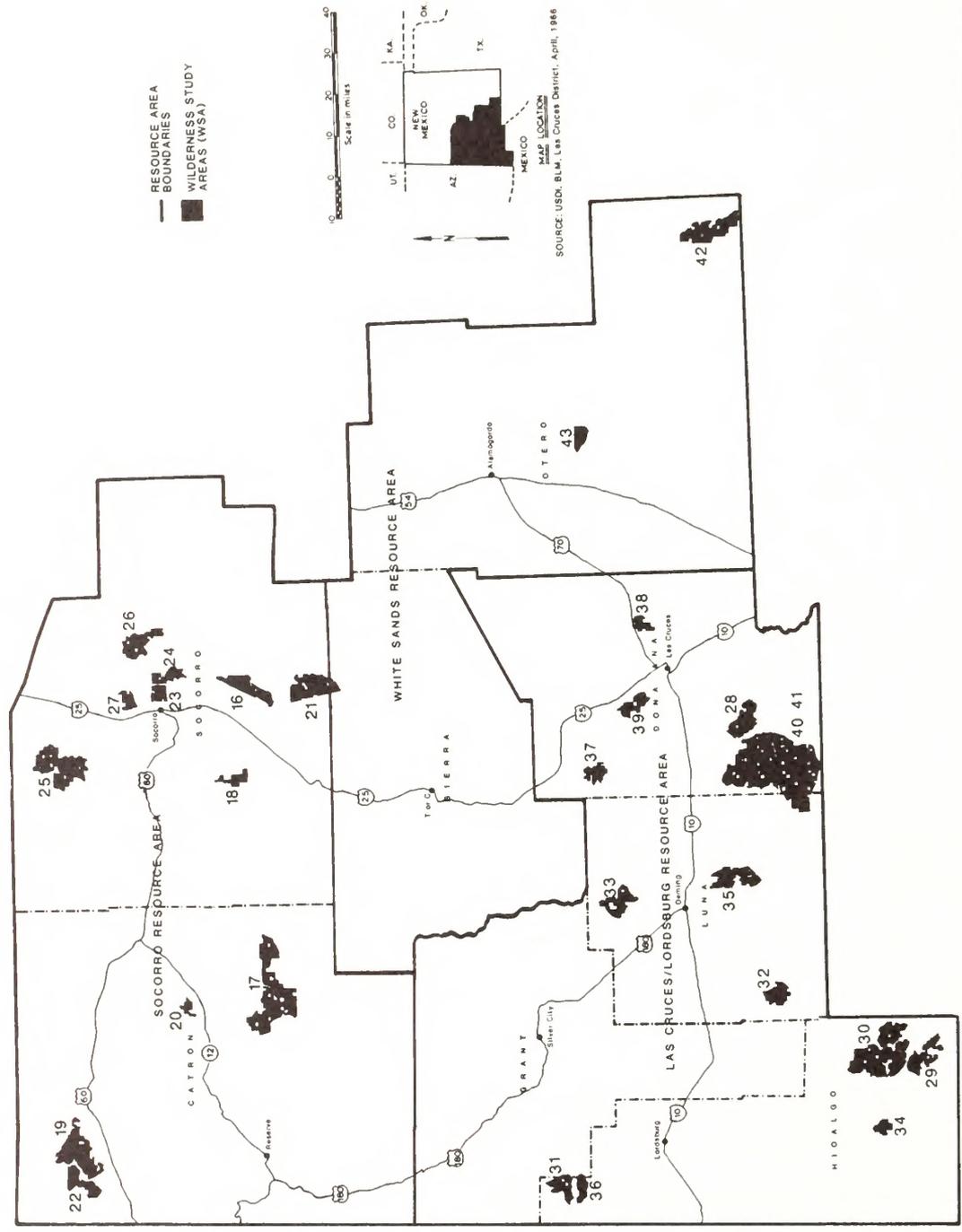
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LAS CRUCES DISTRICT
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APPENDIX 32

CEDAR MOUNTAINS WSA (NM-030-042)

I. GENERAL DESCRIPTION

A. Location

The Cedar Mountains Wilderness Study Area (WSA) is located in southwestern Luna County. The WSA is approximately 20 miles southwest of Deming, New Mexico.

The U.S. Geological Survey (USGS) topographic maps covering the WSA are the Hat Top Mountain, Flying W Mountain, and Gage, SE quadrangles. All of these are New Mexico quadrangles at the 7½-minute scale.

B. Climate and Topography

The Cedar Mountains WSA is characterized by an arid, continental climate, with mild winters and pleasant to hot summers.

Average annual precipitation in the area is slightly above 9 inches, with locally larger amounts at higher elevations. A wide variation in annual precipitation is characteristic of arid climates. More than half of the total annual precipitation occurs from July to September. Rainfall during these months usually is from convective thundershowers that are commonly brief and intense.

During the summer months, daytime temperatures quite often exceed 100°F at elevations below 5,000 feet. Average monthly maximum temperature during July, the warmest month, is in the upper 90's. In January, the coldest month, average monthly minimum temperature is in the upper 20's. Slightly cooler temperatures can be expected throughout the year at higher elevations.

Winds generally predominate from the southeast in summer and from the northwest in winter. Wind speeds are usually moderate. Spring is the windy season. Dry, gusty winds are predominantly from the west-southwest and may exceed 30 mph in the afternoons.

The Cedar Mountains WSA contains a 4-mile segment of the Cedar Mountain Range. The Cedar Mountains are essentially a northwest-southeast trending ridge with scattered peaks. Drainages are steep and rocky at their origins along the mountain ridge. The lower elevations are characterized by more rolling, rounded hills and broader drainages.

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CEDAR MOUNTAINS

Major topographic features within the WSA include Old Baldy Peak, Rock Hole Canyon, and the north half of Flying W Mountain. Flying W Mountain, at 6,217 feet, is the highest point in the Cedar Mountain Range.

C. Land Status

The WSA contains 14,911 acres of public land. There are no State or private lands within the WSA boundary. (See Map 32-1 for land status within the WSA boundary.)

D. Access

There is no legal access to the Cedar Mountains WSA. Physical access is available by way of ranch roads on the north, east, and west boundaries.

Access to the north and east boundaries is via Interstate Highway 10 to the Gage exit, about 19 miles west of Deming, then south on County Road C020 for approximately 5 miles to County Road C019. After approximately 9 miles southwest on C019, a ranch road branches off to the south. This road leads into a network of ranch roads that provide physical access to the north and east boundaries of the WSA.

Access to the west boundary of the WSA is via County Road C001 that runs northwest from State Highway 9. The county maintained road terminates on private land at the Flying W ranch headquarters. The WSA boundary is $\frac{1}{4}$ -mile west of the headquarters across private land.



Cedar Mountains WSA.

CEDAR MOUNTAINS WSA (NM-030-042)
Proposed Action—No Wilderness Alternative

Legend

— WSA BOUNDARY

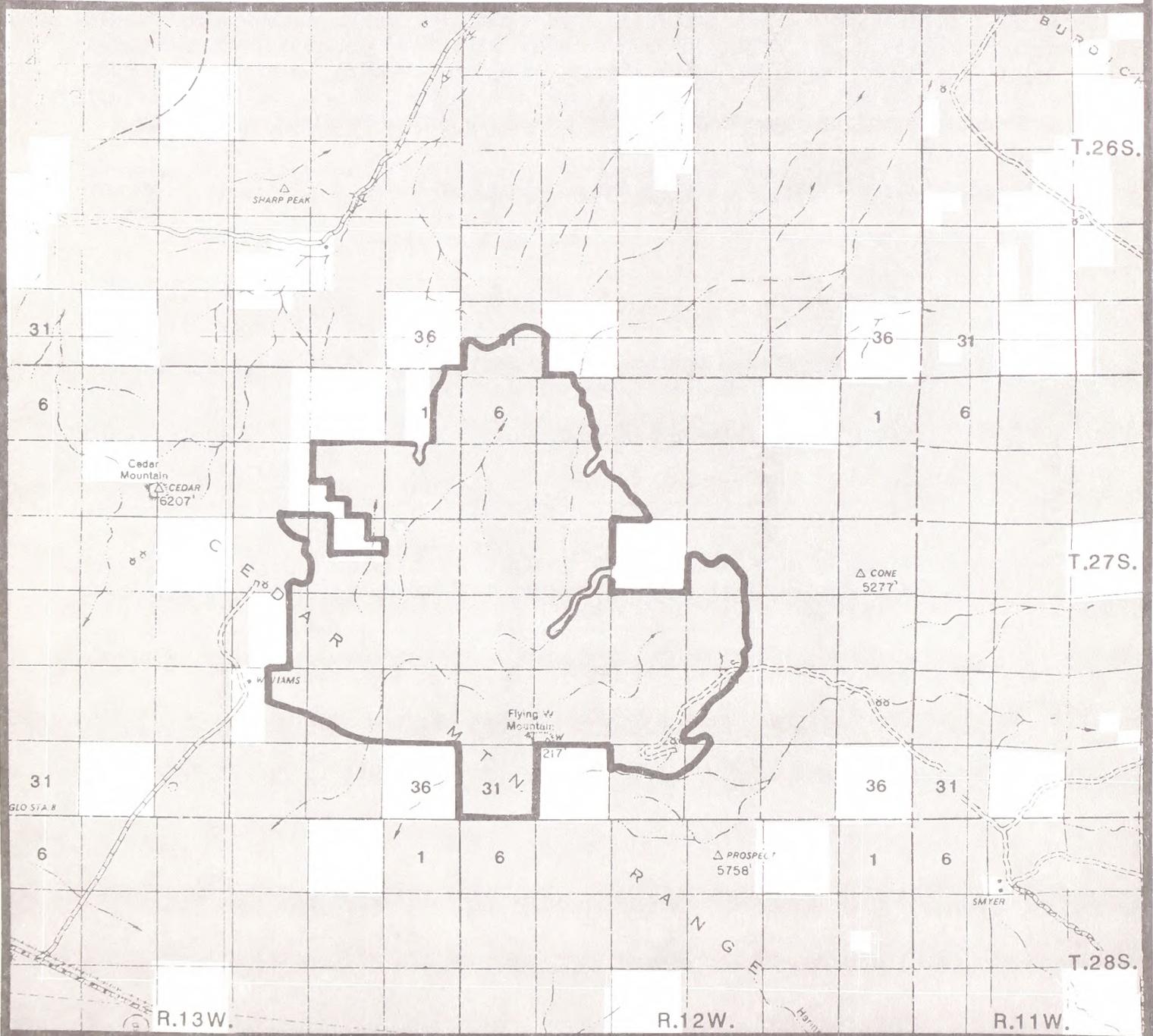
Land Status

- BLM
- PRIVATE
- STATE

Scale: 1/2 Inch=1 mile

MAP 32-1
LAND STATUS

Source: USDI, BLM, Las Cruces District, April, 1986.



E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A detailed description of the actions associated with the proposal and alternatives is provided in Table 1. The proposed action for the Cedar Mountains WSA is the No Wilderness Alternative. The marginal quality of the WSA's wilderness characteristics is the primary reason for this recommendation. The Cedar Mountains area meets the criteria for a WSA in terms of size, apparent naturalness, and outstanding opportunities for solitude, however, none of these values are exceptional. The WSA does not provide outstanding opportunities for primitive and unconfined recreation.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Including this Alternative
Amended Boundary	Several public comments suggested development of an Amended Boundary Alternative. This alternative was not analyzed because no specific boundaries were identified.

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on Threatened or Endangered Plant Species: Night blooming cereus	No Federally-listed threatened or endangered species are known to occur in the WSA. One State-listed endangered species is found in the area, however, due to the low probability for resource development and the requirement for detailed site-analysis in the event surface disturbing activities are proposed, it was not selected for detailed analysis.
Impacts on Cultural Sites	The impact on Animas phase sites was not selected for detailed analysis due to the low development potential and the requirement for detailed site-analysis in the event surface disturbing activities are proposed.

Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	14,911 acres of public land were identified during the inventory as having wilderness values.
No Wilderness (Proposed Action)	The No Action Alternative required by NEPA.

Environmental Issues Selected for Detailed Analysis

The primary issues identified for this WSA are the impacts on the quality of the area's wilderness values and impacts on livestock grazing use levels.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	No Wilderness (Proposed Action)
<p>°MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 14,911 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>°MANAGE 14,911 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>
<p>-Attempts would be made to acquire 1,600 acres of State land adjacent to the WSA.</p>	<p>-No special attempts would be made to acquire State land.</p>
<p>-Close 10 miles of vehicle ways which currently receive low use (less than 200 vehicles per year).</p>	<p>-Vehicle use on 10 miles of vehicle ways would be allowed to continue. Total vehicle use is estimated to be less than 200 vehicles per year in the long-term.</p>
<p>-Require a permit for vehicular access to maintain 9 miles of allotment boundary fence and a storage tank. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.</p>	<p>-The 9 miles of allotment boundary fence and storage tank could be maintained using motorized equipment.</p>
<p>-14,911 acres of low potential for energy and nonenergy minerals would be closed to further energy minerals leasing and mining claim location. At the present time, all 14,911 acres are under post-FLPMA oil and gas lease.</p>	<p>-14,911 acres of low potential for both energy and nonenergy minerals would be open to energy mineral leasing and mining claim location. Oil and gas exploration would include 10-15 miles of seismic line that disturbs up to 30 acres.</p>
<p>-Current livestock grazing levels of approximately 9 head per section per year (2,491 AUMs) would continue.</p>	<p>-Current livestock grazing levels of approximately 9 head per section per year (2,491 AUMs) would continue.</p>
<p>-$\frac{1}{2}$ mile of pipeline could be constructed on the Smyer grazing allotment if necessary for protection of rangeland or wilderness resources.</p>	<p>-$\frac{1}{2}$ mile of pipeline would be constructed on the Smyer grazing allotment.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives /Acreage	Major Environmental Issues Impacts On Wilderness Values
All Wilderness (14,911 acres)	Wilderness protection would maintain the area's rolling, grass and brush covered hills, outstanding opportunities for solitude, special ecological conditions for night blooming cereus (State-listed endangered species) and Animas phase pueblo sites.
No Wilderness (14,911 acres) (Proposed Action)	Wilderness values would not receive long-term Congressional protection. In the short-term, the area would likely retain its natural appearance and outstanding opportunities for solitude. However, in the long-term, the construction of rangeland developments and roads associated with livestock grazing operations along with oil and gas exploration would degrade the area's naturalness and outstanding opportunities for solitude.

CEDAR MOUNTAINS

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The Cedar Mountains are a northwest-trending fault block of Tertiary volcanics. The volcanic rocks consist mainly of basalt, andesite, and latite flows and rhyolite welded tuffs. Numerous northwest-trending faults post-date the volcanics. Paleozoic and Mesozoic limestones crop out in a few areas in the Cedar Mountains and may be present at depth in an extensive area of the subsurface.

B. Water

The Cedar Mountains WSA forms part of a divide for two surface water drainage basins; the Mimbres Basin to the northeast and the Wamel Basin to the southwest. Both are noncontributing, closed basins.

Principal ephemeral streams within the WSA that drain into the Wamel Basin are Rock Hole Canyon and Wamel Draw. Rock Hole Canyon becomes indistinct along the lower alluvial fan slopes and follows a shallow course southwestward. Wamel Draw retains a more distinct channel that becomes broad as it heads south into Mexico. Gap Draw, along with several small tributaries, is the principal ephemeral stream that drains into the Mimbres Basin from the WSA. The drainage heads northwest and flattens out into a broad channel past Gap Hill. Surface flows of the ephemeral streams generally occur as a result of summer thundershowers.

Information on ground water in the WSA is limited. General direction of ground water movement is to the southwest in the Wamel Basin and to the northeast in the Mimbres Basin. Ground water is obtained primarily from the permeable sediments of the valley fill and is within recommended limits for livestock and wildlife use as established by the National Academy of Sciences (BLM 1980).

C. Soils

Soils of the Cedar Mountains WSA were derived primarily from igneous parent bedrock types. Three major soil types occur within the WSA depending on the particular landform on which they are found. The most prevalent soil type occurs on hills where slopes range from 10 to 75 percent. The soils are shallow and stony over bedrock. On the creosote covered "bajada", the soils are deeper. They have a gravelly surface and are usually high in calcium carbonates (caliche). In small drainage ways and valleys between hills, the soils receive runoff water and usually support good stands of tobosa grass.

D. Vegetation

1. General

The vegetation and associated range sites within the Cedar Mountains WSA consist of four major types:

Vegetation Type	Range Site	Federal Acres
Mixed mountain shrub	Mountains	6,099
Creosote	Gravelly	7,599
Tobosa	Draws (swales)	1,206
Mixed mountain shrub	Gravelly sand	7

Mixed mountain shrub and tree species in the Cedar Mountains include juniper, hackberry, Apacheplume, snakeweed, four-wing saltbush, tarbush, mesquite, and Mormon tea. Associated grass species are tobosa, black grama, other gramas, and bush muhly.

Creosote gravelly areas surround the mountain region. Vegetation is predominantly shrubs with a few grass species. Other associated shrub species are snakeweed, mariola, tarbush, mesquite, allthorn, and yucca. Grass species include tobosa, black grama, fluffgrass, bush muhly, and burro grass.

Tobosa and burro grass are the dominant species in the draw (swale) sites. Invading shrub species are tarbush, mesquite, and allthorn. Other shrub species include Mormon tea and yucca.

Oak brush, sumac, juniper, agave, and cacti are the most prevalent woody species in the sandy arroyos of the mountain canyons. Tobosa grass is also present.

2. Rare Plant Species

The following species were identified and located in or near the WSA (NMSHP and USFWS 1982; revised 1986).

Species: Cereus greggii - night blooming cereus

Status: Listed as endangered by the State of New Mexico; candidate for Federal listing.

Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

E. Wildlife

Most of the Cedar Mountains WSA is a grass mountain habitat site with some creosote at the edges. In some areas, there are shrubs and juniper trees which make for more variation in the habitat. There are also some cliffs and rimrock, and some raptors probably nest in the WSA. It is not a unique area for wildlife since it is quite similar to other desert ranges.

The New Mexico Department of Game and Fish has delineated the Cedar Mountains as a deer herd unit area. They estimate that there are now less than half a deer per section. Optimum numbers are half a deer per section. Some javelina also are found in the WSA.

CEDAR MOUNTAINS

F. Visual

The Cedar Mountains have a Class B (moderate) scenic quality rating. The landform of the Cedar Mountains consists of rolling, conical hills. Colors are dark shades of reddish brown and gray with a grainy-crumbly texture. Vegetation consists of light brown and yellow grasses spotted with dark green juniper and desert shrubs.

The WSA is within a Visual Resource Management Class II area.

G. Cultural

There is a large Animas phase pueblo in the Cedar Mountains WSA which has been partially destroyed through bulldozing; however, a similar site remains almost undisturbed. Because almost none of this WSA has been surveyed, it is difficult to evaluate the significance of the cultural resources in this area. The known sites have a high degree of significance because of their condition, the rarity of Animas phase sites, and the large amount of scientific information contained in them. These sites would probably be eligible for the National Register of Historic Places.

H. Air

Generally, the quality of air within the Cedar Mountains WSA is good. The air quality in the WSA does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The locations of land under mineral leases are shown on Map 32-2.

1. Energy Minerals (Oil and Gas)

As of April 15, 1986, there were 43 post-Federal Land Policy and Management Act (FLPMA) oil and gas leases in the WSA.

The Cedar Mountains lie within the Florida shelf area along the northeast margin of the Pedregosa Basin. The Pedregosa Basin is a highly favorable area for wildcat oil and gas exploration. Potentially good petroleum source and reservoir rocks are present in the thick Paleozoic section in this area of southwestern New Mexico. There have been no oil and gas wells drilled in the vicinity of the WSA. Most of the wells have been drilled southwest of the Cedar Mountains nearer the deeper portions of the Pedregosa Basin. Paleozoic rocks do crop out in several areas in the Cedar Mountains and may be present at depth below the volcanics. However, adjacent pediment and basin areas outside the WSA are more favorable for oil and gas occurrences. Based on geologic factors, the WSA is classified as having low potential for oil and gas resources.

2. Nonenergy Minerals (Base and Precious Metals)

As of April 15, 1986, there were 29 mining claims recorded with BLM in the WSA, all post-FLPMA.

There are no known metallic mineral occurrences in the Cedar Mountains. Within the WSA, volcanics in contact with Paleozoic rocks and the occurrence of post-volcanic faults indicate that the geologic environment may be favorable for mineral occurrences. Without more positive geologic indicators, the WSA has to be classified as having low potential for base and precious metals mineral resources.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE CEDAR MOUNTAINS WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*
Energy Minerals			
Oil and Gas	Tertiary volcanics; possible Paleozoic rocks at depth	Low	--
Nonenergy Minerals			
Base and Precious Metals	Tertiary volcanics in contact with Paleozoic rocks; post-volcanic faults	Low	--

Note: *Acreage was not calculated for areas with low potential.

CEDAR MOUNTAINS WSA (NM-030-042)

Proposed Action—No Wilderness Alternative

MAP 32-2

MINING CLAIMS AND MINERAL LEASES

Legend

— WSA BOUNDARY

Land Status

-  BLM
-  PRIVATE
-  STATE

Scale: 1/2 Inch=1 mile

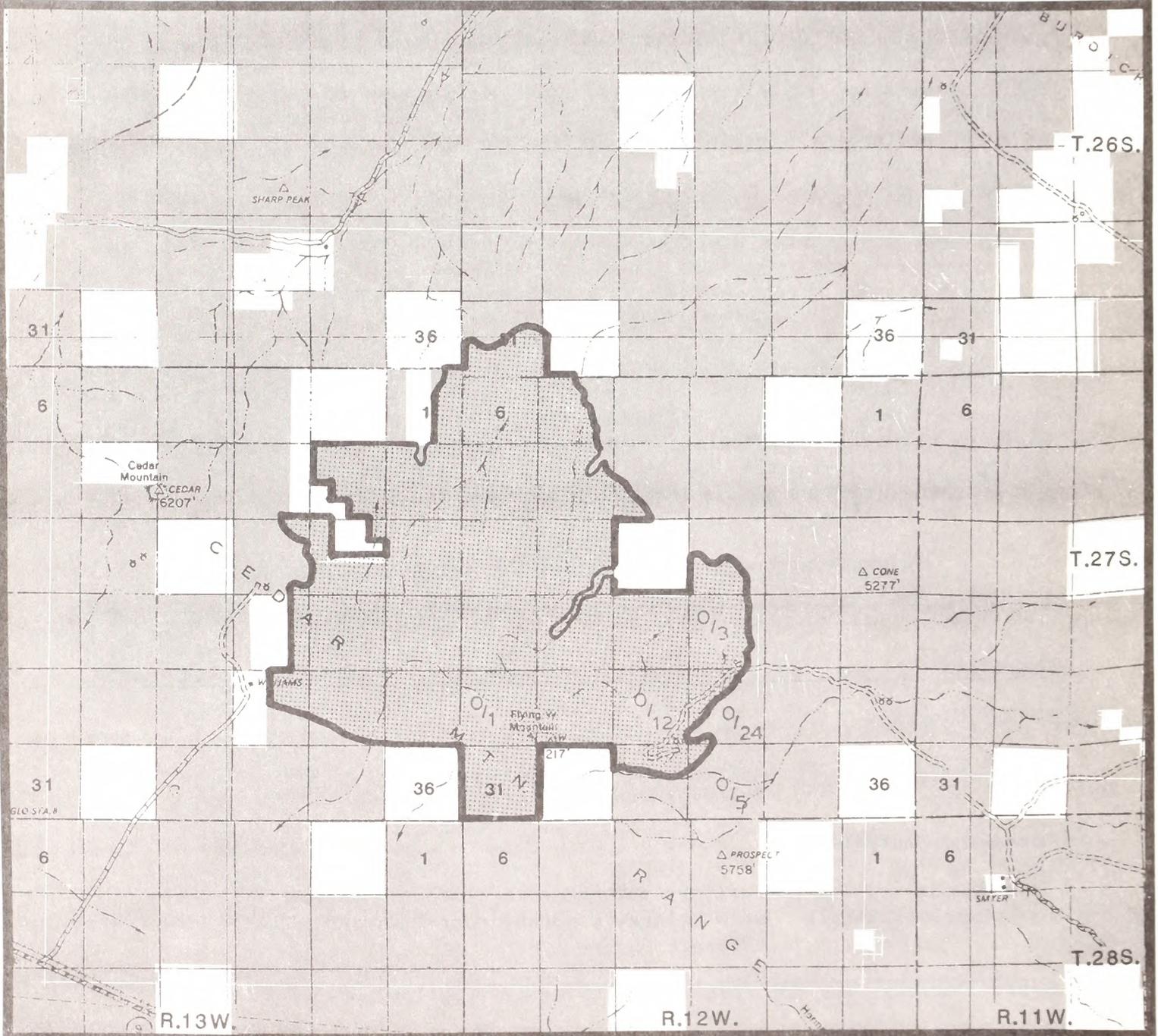
 Post-FLPMA Oil and Gas leases

 Pre-FLPMA Mining Claims per section
 Post-FLPMA Mining Claims per section

(Claim information from BLM records dated April 15, 1986; claims which overlap more than one section are counted in each section in which they occur.)

Source: USDI, BLM, Las Cruces District, April, 1986.

FLPMA was passed October 21, 1976.



B. Watershed

Within the Cedar Mountains WSA, water is used primarily by livestock and wildlife. Water developments that are within the WSA boundary include one dirt tank on a small ephemeral stream and one water spreader system on Gap Draw (see Chapter III, Livestock Grazing). Additionally, several well facilities and dirt tanks are located just outside the WSA boundary that are for livestock watering.

A portion of the Cedar Mountains WSA is within the Mimbres Valley declared underground water basin and ground water use is administered by the New Mexico State Engineer.

C. Livestock Grazing

1. Allotments

Parts of five grazing allotments are within the Cedar Mountains WSA. Some areas within the Cedar Mountain WSA are inaccessible to livestock due to the steep mountain slopes and distance from water developments. Licensed grazing use on public land includes cattle and a few horses. Three allotments, Burdick Hills (2013), Mashed O (2034), and Smyer (2046), are under implemented Allotment Management Plans (AMPs).

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
Z. Clopton 2006	45,115	7,788	214	39	.5%
Alamo Ranch 2013	78,498	12,202	5,606	854	7%
Flying W Ranch 2017	20,917	3,612	4,134	722	20%
Mashed O 2034	70,340	12,228	4,187	734	6%
W. and M. Smyer 2046	13,511	2,364	770	142	6%
TOTAL			14,911	2,491	

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2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Type of Development	Location
Flying W Ranch 2017	interior fence storage tank	1 mile T. 27 S., R. 13 W., Sec. 24
Mashed O 2034	water spreader	T. 27 S., R. 12 W., Sec. 22

Boundary Fences:

Clopton 2006 and Flying W Ranch 2017	1 mile
Alamo Ranch 2013 and Smyer 2046	3 miles
Mashed O 2034 and Flying W Ranch 2017	2 miles
Flying W Ranch 2017 and Alamo Ranch 2013	2 miles
Mashed O 2034 and Smyer 2046	1 mile

Note: ^{a/}Information shown in tables reflects only Federal acres and animal unit months (AUMs), and rangeland developments on public land.

3. Potential Rangeland Developments

The Las Cruces/Lordsburg Management Framework Plan Amendment/Environmental Impact Statement (BLM 1983) on energy minerals leasing and rangeland management proposes a $\frac{1}{2}$ mile of pipeline on the Smyer allotment (2046) in T. 27 S., R. 12 W., Sections 28 and 33. The location of the proposed rangeland development is tentative. The purpose of the proposed pipeline is not to accommodate increased livestock numbers, but to redistribute grazing use over the Smyer allotment and relieve grazing pressure around existing livestock waters. The rangeland condition on presently heavily grazed areas of the allotment would show improvement in the long-term.

D. Recreation

The predominant recreation use of the WSA is hunting for deer, dove, quail, and javelina. There is probably a certain amount of driving for pleasure and sightseeing around the WSA. Primitive recreation opportunities are discussed in Chapter IV, Primitive and Unconfined Recreation.

E. Wildlife

One quail guzzler is located in the Cedar Mountains WSA in T. 27 S., R. 12 W., Section 27, NE $\frac{1}{4}$ NW $\frac{1}{4}$.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The Cedar Mountains WSA generally appears natural. Imprints of man associated with the WSA include: 7 vehicle ways, approximately 10 miles of fences, 2 metal storage tanks, a water spreader, 2 cherry-stemmed windmills, and a cherry-stemmed road and pipeline.

Seven vehicle ways totalling 10 miles in length are located within the WSA boundary in the northwest, southwest, and east parts of the WSA. They generally follow drainages and are topographically screened. Both the vehicle ways and fences have insignificant impacts on naturalness.

One of the metal storage tanks has been abandoned and the other is adjacent to the southeast boundary of the WSA. Neither is substantially noticeable in the WSA. The water spreader is substantially unnoticeable in the unit.

Both of the windmills are cherry-stemmed less than $\frac{1}{2}$ mile into the WSA. Due to their locations just outside the boundaries of the WSA, they are substantially unnoticeable. In addition, the windmill just outside the northeast boundary is located on the north side of a hill and as a result, is topographically screened from most of the WSA.

A cherry-stemmed road and pipeline protrude about 1 mile into the east side of the WSA. This rangeland development impacts naturalness locally, but does not negatively impact the naturalness of the entire WSA.

b. Solitude

The Cedar Mountains WSA contains outstanding opportunities for solitude. The numerous small canyons provide topographic screening in the mountainous portion of the WSA. In the northern part of the WSA, great sweeping vistas of rolling, grass covered hills enhance the feeling of solitude and remoteness from others.

c. Primitive and Unconfined Recreation

Primitive recreation opportunities in the Cedar Mountains WSA include hunting, hiking, and backpacking. There are few rockclimbing opportunities and horseback riding is somewhat limited due to the grazing allotment boundary fences within the WSA. Opportunities for backpacking are limited by the size of the WSA. During the intensive inventory phase of the

CEDAR MOUNTAINS

wilderness review, opportunities for primitive recreation were judged as not being outstanding either in terms of diversity or quality of the recreation experiences available in the WSA.

2. Special Features

The Cedar Mountains WSA contains ecological and cultural features of scientific and educational value. The Cedar Mountains WSA provides habitat for the night blooming cereus a State-listed endangered species (see Chapter II, Vegetation). The cultural features of this area consist of Animas phase sites that would probably be eligible for the National Register of Historic Places (see Chapter II, Cultural).

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the Cedar Mountains WSA as being in the Chihuahuan Desert Province. The potential natural vegetation is grama-tobosa shrubsteppe.

The general nature of the Bailey-Kuchler System fails to show the vegetative variety and diversity of the WSA. Further refinement of the system shows the following vegetation types in the WSA:

<u>Vegetation Type</u>	<u>Acres</u>
mountain mahogany oak scrub	6,106
creosote	7,599
grama-tobosa shrubsteppe	1,206

b. Distance From Population Centers

The Cedar Mountains WSA is approximately 3 hours driving time from Las Cruces, New Mexico; 6 hours from Albuquerque, New Mexico; 4 hours from El Paso, Texas; 4 hours from Tucson, Arizona; and 6 hours from Phoenix, Arizona.

B. Manageability

Two factors complicate the ability of the Cedar Mountains to be managed as wilderness: land status and the cherry-stemmed road and pipeline southwest of Bob's Tank in T. 27 S., R. 12 W., Section 20. However, both of these factors are minor problems.

CEDAR MOUNTAINS

The State land adjacent to the northwest boundary is surrounded by the WSA on the north, east, and south. State land also borders the WSA on the southwest and southeast. Nonconforming or nonwilderness uses on the State land could degrade wilderness values in the WSA. Should the area be designated wilderness, acquisition of the State land legally described below should be considered to enhance the manageability of the area as wilderness.

<u>Legal Description</u>	<u>Acres</u>
State Land	
T. 27 S., R. 12 W., Section 32: All	640
T. 27 S., R. 13 W., Section 11: W ¹ / ₂ SW ¹ / ₂ , SE ¹ / ₂ SW ¹ / ₂	120
Section 14: SE ¹ / ₂ NE ¹ / ₂ , W ¹ / ₂ NE ¹ / ₂ , E ¹ / ₂ NW ¹ / ₂	200
Section 36: All	<u>640</u>
TOTAL	1,600

Continued vehicle use on the cherry-stemmed road past Bob's Tank could create impacts on the naturalness and solitude in the east-central part of the WSA.

Since these are minor manageability conflicts, the Cedar Mountains WSA could be managed to preserve its existing wilderness character.

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 14,911 acres of public land within the Cedar Mountains WSA would be recommended suitable for wilderness designation. (See Map 32-1 for WSA boundary.)

If designated wilderness, the existing uses and activities in the area and the potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the BLM's Wilderness Management Policy (1981).

1. Impacts on Wilderness Values

The natural appearance of the area's grass and brush covered rolling hills, outstanding opportunities for solitude, and habitat for State-listed plant species and Animas phase pueblo site would essentially be maintained at present levels or in present condition. It is not expected that wilderness values would significantly improve as a result of wilderness designation. The limited primitive recreation opportunities of hiking, hunting, backpacking, and horseback riding would be preserved but not enhanced by wilderness designation. Opportunities for solitude provided by the area's remoteness and topography would also be maintained. Some improvement of naturalness would occur as a result of abandonment and subsequent natural revegetation and reclamation of the existing ways in the WSA.

Conclusion. Under the All Wilderness Alternative, the area's naturalness, outstanding opportunities for solitude and existing recreation opportunities would be preserved in the long-term.

2. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 9 head per section per year (2,491 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 9 miles of fence, a storage tank, and a water spreader. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 200 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

If it were determined to be necessary for protection of rangeland or wilderness resources, and there were no practical alternatives, the proposed $\frac{1}{2}$ mile of pipeline on the Smyer allotment (2046) could be constructed using motorized equipment. No access road would be constructed and vehicular access for maintenance purposes would not be authorized.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness (Proposed Action)

Under the No Wilderness Alternative, the entire 14,911 acres of public land within the Cedar Mountains WSA would be recommended nonsuitable for wilderness designation.

The WSA would be managed according to the Las Cruces/Lordsburg Management Framework Plan Amendment which prescribes livestock grazing as the primary use of the area. The Plan Amendment identifies one rangeland development, a $\frac{1}{2}$ mile pipeline on the Smyer Allotment, for the WSA. The Amendment also maintains the WSA open to oil and gas leasing although energy mineral potential for the area is low. However, since the entire WSA is currently under oil and gas lease, it is projected that geophysical exploration including two to three seismic lines would occur. However, unless market conditions improve or new information changes the favorability rating for the area, exploratory drilling and oil and gas production is not projected for the area.

In the 14,911 acres not designated as wilderness, unavoidable adverse effects would result from future surface disturbance activities. Over the long-term, these activities would reduce the quality of wilderness values by adversely affecting naturalness, opportunities for solitude and primitive recreation and special wilderness features. Also, cumulative short-term consumptive uses of this land would lead to long-term degradation of wilderness values. Nondesignation of 14,911 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

Under the No Wilderness Alternative, the natural values, outstanding opportunities for solitude, and special ecological and cultural features of the Cedar Mountains WSA would not be provided with long-term Congressional protection. Wilderness values in the WSA would essentially be maintained in the short-term. Seismic exploration for oil and gas would degrade naturalness and opportunities for solitude. The installation of the proposed pipeline would also degrade naturalness in a localized area. In the long-term, wilderness values would be degraded as a result of increased surface disturbing activities in the WSA.

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Conclusion. In the short-term, wilderness values would be maintained in the Cedar Mountains WSA. In the long-term, oil and gas exploration and the construction of rangeland developments and roads would degrade the area's naturalness and outstanding opportunities for solitude.

2. Impacts on Livestock Grazing Use Levels

Motorized vehicles and equipment could be utilized as needed for livestock management. The proposed pipeline on the Smyer allotment (2046) could be constructed with a $\frac{1}{2}$ mile long access road. The pipeline could be checked and maintained basis using motorized equipment. Livestock grazing would continue at the approximate levels currently existing (approximately 9 head per section per year or 2,491 AUMs) until monitoring studies showed that a change was warranted.

Conclusion. There would be no impacts on livestock grazing use levels under this alternative.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Numerous public inputs were received on the Cedar Mountains WSA during the public comment periods on the New Mexico Wilderness Review Initial Inventory Decisions (BLM 1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980). The recommendation for the Cedar Mountains in the March 1980 WSA Proposals was among the ten most commented-on recommendations in the State. Maps of existing rangeland developments and proposed WSA boundaries and photographs were submitted with some of the comments.

In the March 1980 WSA Proposals, the BLM proposed to drop the entire Cedar Mountains intensive inventory unit. However, after the start of the public comment period, discrepancies were discovered in the intensive inventory information on the WSA. Due to these discrepancies, a major re-evaluation of the area's wilderness characteristics was necessary prior to making a final WSA decision. Four roadless areas greater than 5,000 acres were identified in the reevaluation of the original intensive inventory unit.

During the reevaluation of this area, grazing permittees and other members of the public were concerned about the accuracy of the inventory data. Field trips made in conjunction with the permittees and interested individuals are documented in the Permanent Documentation File in the Las Cruces District Office.

Many of the comments on the WSA Proposals opposed WSA status for the Cedar Mountains. The commentators were upset that the area was being reevaluated for wilderness characteristics. Opposing comments cited rangeland developments, lack of outstanding opportunities for solitude or recreation, and conflicts with the ranching business and rockhounds. Comments favoring WSA status for this area stated that a portion of the unit has basic wilderness values and cited the supplemental values of a biological ecotone along the Mexican border.

After consideration of public comments and the corrected intensive inventory data, the BLM designated part of one of the four roadless areas a WSA (16,680 acres) in the November 1980 New Mexico Wilderness Study Area Decisions. The remaining three roadless areas were released from further wilderness review. The BLM's November 1980 decision to release the roadless area west of the WSA and an area contiguous to the designated WSA was subsequently protested by the Desert Wilderness Coalition. The State Director denied the protest and the Desert Wilderness Coalition appealed to the Interior Board of Land Appeals (IBLA). In their decision of December 5, 1983 (IBLA-81-1068), the IBLA affirmed the decision dropping the roadless area to the west, but directed BLM to reconsider including within the designated WSA the contiguous acreage south of the WSA and north of State Highway 9.

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The BLM's November 1980 decision designating the 16,680-acre WSA was also protested by Zay Clopton, a grazing permittee in the area. Mr. Clopton protested the inclusion of approximately 1,900 acres in T. 28 S., R. 12 W., Sections 5, 6, 7, and 8, and T. 28 S., R. 13 W., Sections 12 and 13, in the WSA. The State Director resolved Mr. Clopton's protest by relocating the southern boundary of the WSA on the section line between T. 27 S., R. 12 W., Section 31, and T. 28 S., R. 12 W., Section 6.

The information regarding the boundary change as a result of Mr. Clopton's protest was not transmitted to the IBLA. As a result, the area specified by the IBLA for reconsideration and possible addition to the WSA was not contiguous to the designated WSA. The WSA and area described by the IBLA only shared a common section corner. In response to IBLA's ruling, BLM reinventoried all contiguous roadless acreage of the presently designated WSA. The reinventory indicated that the area does not meet the requisite wilderness characteristics and the acreage was released from further review by the State Director. The resulting WSA totalled 14,911 acres.

During the public comment period on the Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District (BLM 1983), 25 personal inputs were received on the Cedar Mountains WSA. Most of these inputs favored wilderness designation of the area. Comments favoring wilderness designation fell into 3 major categories of criticism of BLM's evaluation of the area: (1) wilderness values; (2) manageability; and (3) ecological values.

Most of the comments listed the area's wilderness values as reasons for favoring wilderness designation for the area. Several comments indicated support for wilderness designation of an area greater than the 14,911-acre WSA. The acreage figures cited ranged from 40,000 to 95,000 acres. In addition to the general comment that the Cedar Mountains WSA is manageable as wilderness, several commentators suggested solutions to manageability conflicts such as land exchanges for contiguous State land, adopting a long-term plan for eliminating existing fences, and closure of cherry-stemmed roads.

Comments submitted by the State of New Mexico Natural Resources Department (NMNRD) indicated inadequacies in the plant data presented in the Wilderness Analysis Report (WAR) and listed a number of State sensitive and Federal candidate plant species possibly occurring in the WSA. The NMNRD's comments also indicated that there is a high probability of finding Mexican peripheral plant species and communities in the WSA as well as peripheral animal species from Mexico.

Comments opposing wilderness designation for the area either indicated agreement with the BLM's assessment and proposed action for the WSA or listed potential mineral resources as the reason for opposing wilderness designation.

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico Wilderness Coalition. Alternative W included the Cedar Mountains WSA and recommended wilderness designation for a much larger area (46,200 acres). Twenty-three commentators specifically addressed the Cedar Mountains WSA, with 20 supporting wilderness designation and 3 opposing it.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Cedar Mountains WSA by 53 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

Public Review of the Revised Draft EIS

No. 0100

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The original Cedar Mountains Intensive Inventory Unit contained over 200,000 acres. After many reevaluations, IBLA hearings, and pressure from the ranching industry, the BLM studied a 14,911-acre WSA and now recommend the no-wilderness alternative for it. Based on a partial reinventory of the Cedars, the Coalition has found that the WSA is but a small portion of the true wilderness potential of the area.

The 'road' used as the northwestern boundary was checked in the spring of 1986 and showed no signs of construction or maintenance. By cherry-stemming the private land of the Williams Ranch and the road south of there, the boundary can be extended further west to include a portion of the Continental Divide, the bulk of the Cedar Mountain chain, and Cedar Mountain itself.

A 1980 protest by a local rancher resulted in 1,900 acres south of the current WSA being dropped from further consideration. Although the rancher claimed that this area was unsuitable for wilderness, the Coalition has found on recent field trips that the area is substantially natural. The few stock tanks and almost abandoned ways here do not constitute a significant detraction. The rest of the area to the south and the southeast is also in similar condition. In the southeast corner of the WSA, the way that forms the boundary in T. 27 S., R. 12 W., Section 33, is impassable. The creek bed that this way follows has cut a 3-foot dropoff.

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No. 0100 (continued)

The Coalition has found a total of 106,081 acres in the Cedar Mountains area suitable for wilderness designation. All of the additions to the WSA have high quality wilderness values and should help remedy the BLM's 'problems' with regard to size and the quality of the opportunities for primitive and unconfined recreation."

Response: The additional 76,025 acres of public land proposed for wilderness designation by the Coalition in conjunction with the 14,911 acres in the Cedar Mountains WSA were inventoried for wilderness characteristics and released from further consideration prior to the wilderness study of the existing Cedar Mountains WSA.

The public land along the Continental Divide in the northwest part of the Coalition proposal was included in the Sharp Peak initial inventory unit, NM-030-043. Following a 90-day public comment period, this area was released from further consideration in July 1979. There were no protests or appeals of this decision.

The rest of the public land in the Coalition proposal was included in the Cedar Mountains intensive inventory unit. Two protests were received on the State Director's November 1980 WSA decision. The Desert Wilderness Coalition's (DWC) protest was denied. A 1,900-acre parcel was excluded from the designated WSA in response to livestock permittee Zay Clopton's protest.

The State Director's final decision to designate a 14,911-acre WSA and release the rest of the intensive inventory unit was appealed by the DWC in April 1981. In the appeal to the Interior Board of Land Appeals (IBLA), the DWC contended that the BLM should designate a WSA of 75,000 acres. The DWC's proposal was roughly equivalent to the Coalition's proposal minus the Sharp Peak initial inventory unit described above. In the appeal, the DWC argued, as in the present Coalition proposal, that the road along the northwest boundary of the existing WSA does not meet the BLM's criteria for a road.

The IBLA upheld the BLM's decision to release from further wilderness consideration public land west and northwest of the existing WSA and public land in the area of Hermanos Draw southeast of the WSA. The IBLA also affirmed BLM's finding that the route along the northwest boundary of the WSA is a road.

The IBLA directed the BLM to consider an area of 14,895 acres of public land to the south for inclusion in the WSA. The BLM reinventoried the parcel (which included the parcel deleted in response to the livestock permittee's protest) and found that parcel lacked wilderness characteristics. The State Director released the 14,895-acre parcel from further wilderness study on March 7, 1984.

Cedar Mountains WSA (concluded)

No. 0100 (concluded)

In summary, the Sharp Peak area included in the Coalition proposal was dropped in initial inventory; the areas west, northwest, and southeast of the WSA were dropped after IBLA affirmed BLM's November 1980 decision; and the area directly south of the WSA was dropped after BLM conducted a second intensive inventory.

APPENDIX 33

COOKE'S RANGE WSA
(NM-030-031)

I. GENERAL DESCRIPTION

A. Location

The Cooke's Range Wilderness Study Area (WSA) is located in Luna County, approximately 15 miles north of Deming, New Mexico.

The following U.S. Geological Survey (USGS) topographic maps cover the WSA:

Dwyer, New Mexico	15-minute scale
Lake Valley, New Mexico	15-minute scale
Goat Ridge, New Mexico	7 ¹ / ₂ -minute scale
Massacre Peak, New Mexico	7 ¹ / ₂ -minute scale

B. Climate and Topography

The Cooke's Range WSA is characterized by an arid, continental climate. Annual precipitation totals average between 8 and 10 inches, with 12 to 14 inches at elevations greater than 6,000 feet. Over 50 percent of the total occurs from July through September in high intensity, short duration thundershowers.

Temperatures reach a maximum in July with average afternoon temperatures reaching the mid-90's at lower elevations. Afternoon highs in the 80's are more common at higher elevations. Minimum temperatures during the winter months range from the mid-20's to near freezing.

Surface winds are predominantly from the southeast in summer and from the northwest in winter, but local surface wind directions will vary greatly because of local topography. Spring is the windy season. Dry, gusty winds are predominantly from the west-southwest and may exceed 30 mph in the afternoons.

The terrain of the Cooke's Range plays a very important role in the microclimates of different parts of the range. Temperatures generally decrease with elevation. However, the aspect of a location, whether it is a north or south facing slope, also contributes in defining temperature, particularly in terms of its daily and annual range.

Cooke's Peak rises over 3,600 feet above the surrounding plains and dominates the landscape for miles around. Portions of the north and east slopes of Cooke's Peak are within the boundaries of the WSA; however, much of the south and southwest slopes are on cherry-stemmed State and private lands. Several ridges, rising between 1,000 and 3,000 feet above the surrounding terrain, run the length of the WSA. These ridges, which form the backbone of the range, are dissected by dozens of drainages and

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secondary ridges. Several steep walled canyons and dropoffs are located in the WSA.

C. Land Status

The WSA contains 19,608 acres of public land and 640 acres of State inholdings. Four hundred eighty acres of private land and 1,440 acres of State land are cherry-stemmed out of the WSA. The subsurface mineral estate of the cherry-stemmed 480 acres of private land in and around Provinger Canyon is Federally-owned. (See Map 33-1 for land status within the WSA boundary.)

D. Access

Legal access to the Cooke's Range WSA is available on the east, west, and southwest boundaries. Legal access on the east side is by way of the Hadley Draw road (County Road A019), which leads north off State Highway 26 at Florida, approximately 12 miles northeast of Deming. The county maintained road terminates approximately 3 miles southeast of the ghost town of Cooke's. From there, a four-wheel drive road provides additional physical access as it continues on to Cooke's and on around the north boundary through Hurricane Pass.

County Road A008 runs due north from U.S. Highway 84 just north of Deming and forms approximately 4 miles of the western boundary of the WSA. County Road A016 branches off of A008 to the east-southeast and forms approximately 3 miles of the southwest boundary of the WSA.

E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis, as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A description of those actions associated with the proposal and alternatives is provided in Table 1. The proposed action for the Cooke's Range WSA is the No Wilderness Alternative. Mineral resource conflicts and land ownership patterns are the primary reason for this recommendation. Strategic minerals are known to occur in and around the WSA. As of April 15, 1986, there were 92 mining claims in the WSA. Ten of these are pre-Federal Land Policy and Management Act (FLPMA) claims. Projected development of valid existing mining claims in the WSA would degrade naturalness and opportunities for solitude and primitive recreation. Large parcels of state and private lands are cherrystemmed in the north-central portion of the WSA which excludes a major portion of Cooke's Peak.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Including This Alternative
Expanding the WSA Boundary on the North to include the Arizona Cypress	The size and boundaries of the Cooke's Range WSA were determined by the location of roads and land status. Part of the Arizona cypress stand is on a parcel of land that is not contiguous to the WSA; it is separated from the WSA by the road through Hurricane Pass, the road north from the Pass to the windmill and the patented mine in T. 20 S., R. 9 W., Section 13.
Designation of the Cooke's Range as an Area of Critical Environmental Concern (ACEC) for Visual Resources	During preparation of the Las Cruces/Lordsburg MFP Amendment/EIS (BLM 1983), the Cooke's Range was identified as a potential ACEC for visual resources. The mountain range meets the minimum required criteria for a potential ACEC because it rates high in scenic quality and relative scarcity. However, the total scenic resource (the mountain range) contains a significant amount of acreage in non-Federal ownership. Since the land status patterns of the Cooke's Range would significantly limit BLM's ability to protectively manage the total scenic resource, the area was eliminated from further consideration in the Las Cruces/Lordsburg MFP Amendment/EIS (BLM 1983) as an ACEC for visual resources. Management of the Cooke's Range as an ACEC for visual resources could have been analyzed in the WAR under the No Wilderness Alternative. However, since the land status situation has not changed, this alternative was not given further consideration in the preparation of the Cooke's Range WAR.
Designation of Portions of Cooke's Range as Recreation Lands	Under this alternative, portions of the Cooke's Range WSA would have been designated "Recreation Lands" as provided in 43 CFR 2071. The objective of this designation would have been to identify for the public the special recreation opportunities and values in and around the Cooke's Range WSA. The Cooke's Range Recreation Lands could have included, in addition to portions of the WSA, the following areas outside the WSA: the Massacre Peak Petroglyphs Area, the Fort Cummings Recreation Area, portions of the remnant Arizona cypress population, and rockhounding areas around Fluorite Ridge. This alternative was not analyzed because most of the lands in the Cooke's Range are not classified pursuant to the now expired Classification and Multiple Use Act of 1964 and therefore, do not meet the designation criterion under 43 CFR 2071.

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on the following threatened or endangered species: night blooming cereus and red figwort	No impacts were identified to threatened or endangered species. The U.S. Fish and Wildlife Service has concurred with BLM's finding of no affect on species Federally-listed or proposed for listing as threatened or endangered. Threatened, endangered or sensitive species are recognized as a special feature of the wilderness and are addressed as part of the discussion of wilderness.
Impacts on Cultural Sites	The impacts on Petroglyphs, Mimbres habitation sites, and the more recent historical sites were not selected for detailed analysis because they are away from projected development areas. A detailed site-analysis will be performed on all acres where mining and other surface disturbing activities are proposed.

Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	19,608 acres were identified during the inventory as having wilderness values.
No Wilderness (Proposed Action)	The No Action Alternative required by NEPA.

Environmental Issues Selected for Detailed Analysis

Impacts on wilderness values, impacts on livestock grazing use levels, and impacts on exploration and development of metallic minerals were the issues identified for this WSA. Concerns regarding livestock grazing use levels include the inconvenience to livestock operators from vehicle restrictions under wilderness designation, as well as an expected increase in vandalism and harassment to livestock if it is not designated wilderness. Within the WSA, an area of 1,100 acres is identified as having high potential and an area of 3,700 acres is identified as having moderate potential for base and precious metals. These issues were generally discussed in terms of the value of the area for wilderness versus the value of the area for mineral resources.

COOKE'S RANGE WSA (NM-030-031)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

Legend

— WSA BOUNDARY

Land Status*

BLM

P PRIVATE

S STATE

Scale: 1/2 inch=1 mile

MAP 33-1 LAND STATUS

Source: USDI, BLM, Las Cruces District, April, 1986.

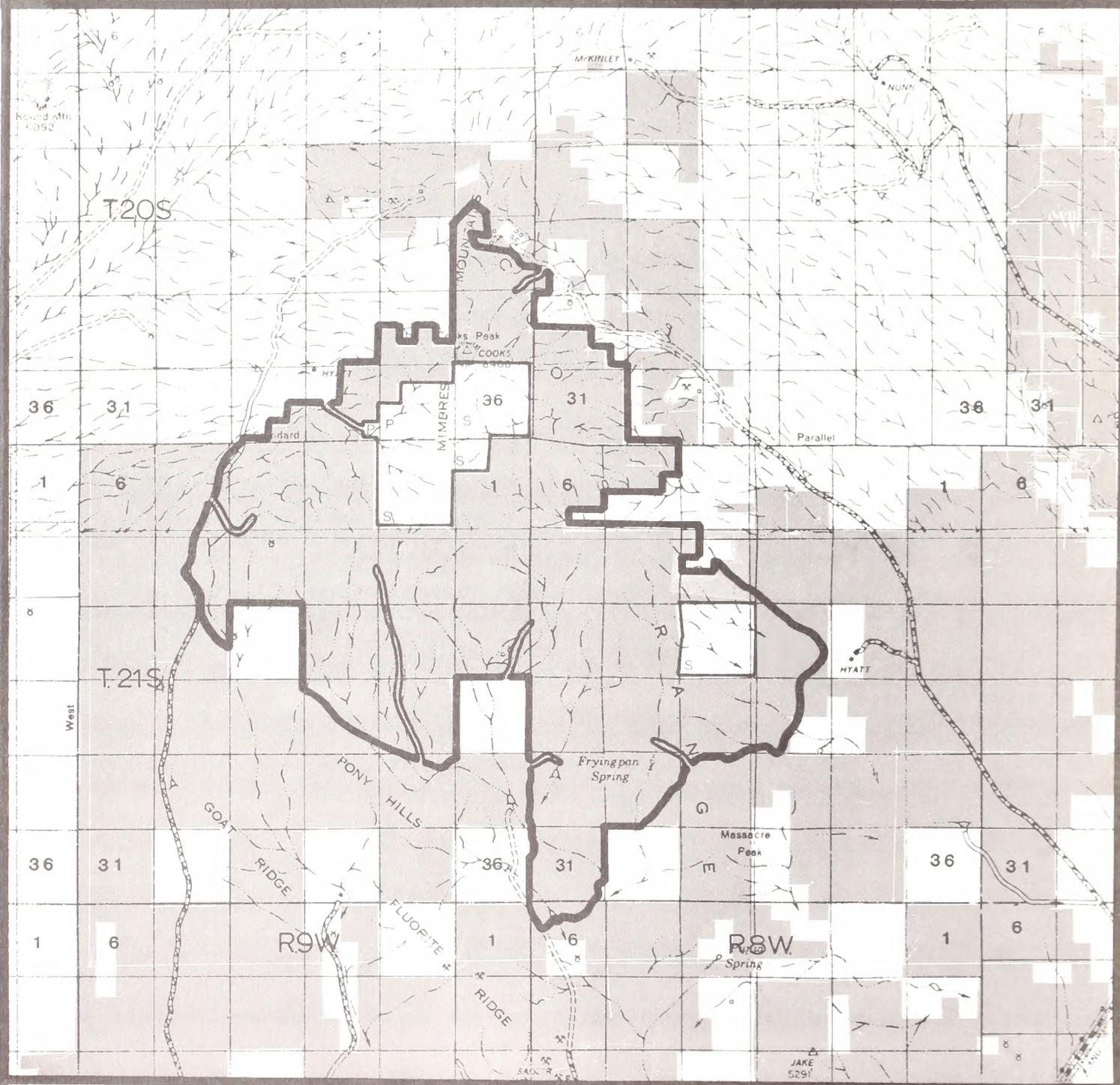


TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	No Wilderness (Proposed Action)
<p>°MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 19,608 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>°MANAGE 19,608 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>
<p>-Attempts would be made to acquire 2,520 acres of State land and 480 acres of private lands within and adjacent to the WSA.</p>	<p>-No special attempts would be made to acquire State and private lands.</p>
<p>-Close 8 miles of vehicle ways, which currently receive low use (less than 100 vehicles per year).</p>	<p>-Vehicle use would be allowed to continue on 8 miles of vehicle ways. Total vehicle use is estimated to be less than 100 vehicles per year.</p>
<p>-Require a permit for vehicular access to 4 developed springs, 12½ miles of fence, and a well with watering facilities. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.</p>	<p>-Vehicular restrictions for maintenance of range-land developments would not apply.</p>
<p>-19,608 acres would be closed to energy minerals leasing and mining claim location including 1,100 acres of high potential and 3,700 acres of moderate potential for base and precious metals.</p>	<p>-17,115 acres including 1,100 acres of high potential and 3,700 acres of moderate potential for base and precious metals would be open to mining claim location and mineral development. Projected exploration would result in 20-40 drill holes in areas of moderate potential. A low level of development would result in approximately 15-30 acres of new disturbance and 5 to 12 miles of new roads.</p>
<p>-Development could occur on valid mining claims.</p>	<p>-2,493 acres classified for recreation and historic purposes under the Classification and Multiple Use Act of 1964 would remain segregated from all forms of mineral entry to protect recreation, cultural, and historic values.</p>
<p>-Current livestock grazing levels of approximately 10 head per section per year (3,561 AUMs) would continue.</p>	<p>-9,745 acres with low potential would be open to energy minerals (oil and gas and geothermal) leasing with no special stipulations.</p>
<p>-Current livestock grazing levels of approximately 10 head per section per year (3,561 AUMs) would continue.</p>	<p>-1,350 acres with low potential would be open for energy minerals (oil and gas and geothermal) leasing with a special stipulation limiting surface use and occupancy to protect riparian habitat.</p>
<p>-Current livestock grazing levels of approximately 10 head per section per year (3,561 AUMs) would continue.</p>	<p>-8,513 acres with low potential would be open for energy minerals (oil and gas and geothermal) leasing with a special stipulation (which allows no surface disturbing activities from February 1 to July 31 each year) to protect nesting raptors.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues	
	Impacts On Wilderness Values	Impacts On Exploration and Development of Metallic Minerals
All Wilderness (19,608 acres)	The area's rugged canyons and steep ridges, opportunities for solitude, rock climbing, photography and hunting, and habitat for numerous raptors, mule deer, and unusual reptile species would be maintained. Petroglyphs, Mimbres habitation sites and sites associated with the Butterfield Trail would be maintained. Solitude opportunities and naturalness would be impacted approximately 20 percent of the WSA as a result of projected development of valid existing mining claims.	Exploration and development of mining claims without valid existing rights on 1,100 acres with high potential and 3,700 acres with moderate potential for base and precious metals would be foregone. This would preclude drilling 35 - 70 test holes to explore and to fully evaluate the area's mineral potential.
No Wilderness (19,608 acres) (Proposed Action)	Over the long-term, new roads and ways, drill pads, and surface disturbance associated with mineral exploration and a low-level of development would result in approximately 50-100 acres of surface disturbance and up to 12 miles of new road. This would degrade naturalness and opportunities for solitude and primitive recreation in the north end of the WSA. The scenic character would change from substantially natural to semi-developed. Portions of the WSA could be partitioned into roadless areas less than 5,000 acres in size. Approximately 50 percent of the area would be affected by mineral activities. In the short-term, wilderness values would be protected on 2,493 acres segregated from mineral entry in the southern portion of the WSA.	No significant impacts. Mineral exploration for base and precious metals is anticipated to occur on 1,100 acres having high favorability and 3,700 acres having moderate favorability. A low level of development would result from drilling 35-70 test holes to fully access the area's mineral potential.

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

Cooke's Range, the southernmost extension of the Mimbres Mountains, is an uplifted fault block consisting of Paleozoic and Mesozoic sediments intruded by a large granodiorite stock. Approximately 3,000 feet of Paleozoic and Mesozoic sediments have been measured in Cooke's Range including the Ordovician El Paso and Montoya groups, the Silurian Fusselman dolomite, the Devonian Percha shale, the Mississippian Lake Valley formation, the Pennsylvanian Magdalena group, and the Cretaceous Lobo, Sarten, and Colorado formations. Tertiary andesites and tuffs are evident east of the WSA boundary.

Large scale folding, faulting, uplift, and intrusion began in the late Cretaceous or early Tertiary periods. The Cooke's Peak stock was probably emplaced prior to the eruption of Tertiary volcanics which crop out to the east of the WSA in the Old Hadley Mining District. Varying amounts of tectonic activity continued throughout a large part of the Tertiary period.

During emplacement of the Cooke's Peak stock, the overlying sedimentary rocks were faulted and slightly domed. Cooke's Range is bound on the east by the Sarten Fault, which forms the east boundary of the main area of ore deposition within the Cooke's Peak Mining District. Minor faulting is common throughout the Cooke's Range.

B. Water

The Cooke's Range WSA is situated within the northeast portion of the Mimbres Basin, a noncontributing, closed basin.

Surface water within the WSA drains into the Mimbres Basin through an ephemeral stream system. Principal drainages in and around the Cooke's Range include Provinger Canyon to the southwest; Hadley Draw, OK, and Rattlesnake Canyons to the southeast; and Starvation and Butterfield Draws to the south. These ephemeral streams flatten out below the alluvial fan slopes and become a nonintegrated system of washes and arroyos in the valley floor. Surface flow generally occurs as a result of intense summer precipitation. There are several scattered springs in the WSA; however, their contribution to surface flow is limited. One spring in the upper reach of Hadley Draw is particularly important for its contribution to the riparian habitat. Although the spring and riparian habitat are outside the WSA boundary, they are near enough to have an influence on the WSA.

Ground water is available primarily from the alluvial deposits in the draws. Little potential exists in the higher elevations underlain by granite and intrusive rocks. Ground water movement from the east side of the WSA is to the southeast, and from the west the water follows the Mimbres trough to the southwest. The ground water reservoir is recharged mainly during flood runoff by infiltration in stream channels. Ground water quality is within recommended limits for livestock and wildlife use, as established by the National Academy of Sciences (BLM 1980).

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C. Soils

The soils of the Cooke's Range WSA were derived from a variety of parent rock types. Three major soil types occur within the WSA dependent on the particular landform on which they are found. The most prevalent soil type occurs on steep hillsides where soils are shallow and stony. Exposed bedrock outcropping is common. Deeper, cobble soils occur on alluvial fans and creosote covered footslopes around the mountains. Soils in the small drainageways and valleys between the mountains are typically deep and fine textured.

D. Vegetation

1. General

The vegetation and associated range sites within the Cooke's Range WSA consist of five major types:

Vegetation Type	Range Site	Federal Acres
Pinyon-juniper-		
mixed mountain shrub	Mountain	13,899
Creosote	Gravelly areas	3,068
Tobosa	Draws (swales)	879
Mixed desert shrub	Sandy areas	1,702
Mixed desert shrub	Gravelly sand	60

Pinyon-juniper is the dominant vegetation type in the higher mountain elevations of the Cooke's Range. The vegetation species in the mountains are many and diverse. Other shrub species include oak, mountain mahogany, sotol, Wright silktassel, pale wolfberry, ocotillo, spicebush, Fendlerhush, snakeweed, creosote, mesquite, tarbush, yucca, and brickelbush. Associated grass species include gramas, muhlys, vine-mesquite, cane bluestem, tobosa, and threeawns.

Creosote gravelly areas surround the mountain region. Other tree and shrub species which characterize these areas are snakeweed, mesquite, mariola, yucca, oak, juniper, tarbush, mimosa, range ratany, and pale wolfberry. Grass species include cane bluestem, gramas, tobosa, threeawns, fluffgrass, and bush muhly.

Tobosa draws occur in the southern portion of the WSA. Other associated grass species are bush muhly, alkali sacaton, and hurro grass. Shrub species include pale wolfberry, creosote, tarhush, yucca, mesquite, fourwing saltbush, and snakeweed.

Mixed desert shrubs are the dominant vegetation type on the sandy areas in this WSA. They occur on the southwest side of the mountain range. Shrub species include snakeweed, yucca, Mormon tea, mariola, cacti,

mesquite, creosote, and tarbush. Of the few grass species present, gramas, fluffgrass, and bush muhly are the most prevalent.

The gravelly sand range site is in a sandy arroyo in Frying Pan Canyon. This site is a pseudoriparian area that was identified as special habitat for wildlife. Shrub species include creosote, tarbush, mesquite, snakeweed, yucca, and cacti. Grass species include bush muhly, fluffgrass, and tobosa.

2. Rare Plant Species

The following species were identified and located in or near the WSA (NMSHP and USFWS 1982; revised 1986).

Species: Cereus greggii - night blooming cereus

Status: Listed as endangered by the State of New Mexico; candidate for Federal listing.

Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

Species: Scrophularia macrantha - red figwort

Status: Federal endangered. This plant occurs approximately 1 mile north of the WSA boundary.

Habitat: Among rock debris in cliff area; among pinyon-juniper, Arizona cypress, and ash species in wet spots.

E. Wildlife

The Cooke's Range WSA has a diversity of habitat sites. Most of the area consists of mountain sites--mixed shrub, grass, or pinyon-juniper grass with smaller sites that are classified as oak draw, creosote, and pseudoriparian. In addition, there is a small riparian habitat site just outside the northeast boundary. It is close enough to have an effect on wildlife within the WSA. There are also springs in the WSA which provide water for wildlife.

Another valuable habitat feature is the cliffs in the higher elevations. There is evidence of golden eagle nesting in these cliffs.

The variety of vegetation in the Cooke's Range WSA results in a diverse wildlife community. There is an abundant avifauna, with 70 species recorded in 6 days field work by the BLM Integrated Habitat Inventory Classification System (IHICS) team (1981). Besides the golden eagle, several other raptors nest in or near the WSA: the red-tailed hawk, the Cooper's hawk, the great horned owl, and the prairie falcon (BLM 1981).

There are some mule deer in the range. Although the habitat is good, the herd is fairly small. There are approximately 2.5 animals per square mile. New Mexico Department of Game and Fish (NMDGF) estimates five deer per square mile to be the optimum number.

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Some reptiles of scientific interest were collected during the BLM wildlife survey. An unusual lizard, the Gila whiptail was found. This species was previously known only from the Gila Basin (Behler 1979). A hybrid whiptail, New Mexican whiptail x little striped whiptail also was identified. The New Mexican whiptail, a parthenogenic species, can reproduce asexually, while the little striped whiptail reproduces sexually. These two species had not been known to hybridize, and the fact that one is parthenogenic makes this even more uncommon (Price 1982; Hakkila 1982). Hybrid lizard species often develop to take advantage of a disturbed habitat. Cole (1978) discusses a hybrid whiptail which developed in Arizona where the habitat had changed from a grassland to a desert type. This suggests that hybrids such as the one collected in the WSA may be an indicator of vegetation changes.

F. Visual

The northern part of the WSA is composed of a craggy mountain with some tilted banded rock exposed. The range of colors exposed in the mountains includes yellow gray to mottled grays and reds. Texture is coarse. South of this extremely rugged section, the WSA becomes less precipitous with more rolling and open hills cut by somewhat deep canyons. Vegetation is generally composed of patchy clumps of trees and shrubs which often follow rock stratifications or drainages.

The Cooke's Range WSA has a Class A (high) scenic rating and high scarcity rating. The range can be seen from Interstate 10, U.S. 180, Deming, City of Rocks State Park, and Deming's Centennial Park. The WSA is within a Visual Resource Management (VRM) Class II area.

G. Cultural

One of the most significant petroglyph sites west of the Rio Grande in the Las Cruces District is located near Frying Pan Spring in the southeast part of the Cooke's Range WSA. The Mogollon style designs include crosses, abstracts, masks, lizards, a plumed serpent, and birds. These petroglyphs provide information regarding prehistoric art styles and beliefs. The Frying Pan Spring area contains at least one lithic site. A four room Classic Mimbres site located in the western portion of the WSA could provide significant information regarding Mimbres sites in an environmental zone in which they usually do not occur.

The historical component of this WSA is probably the most significant of all the WSAs in the Las Cruces District. The Butterfield Trail forms the southeast boundary of the WSA. The Trail was one of the most significant migration and communications routes in the west, with use of the area starting in 1846. Beginning in 1863, military patrols from Fort Cummings (the most significant Indian Wars fort in New Mexico), $\frac{1}{2}$ mile east of the WSA, scoured the area in search of hostile Indians. In 1882, the mining town of Cooke's was established along what is now the northeast boundary of the WSA. Between 1882 and 1914, about 1,500,000 pounds of lead and 6,000 ounces of silver were removed from the mines, making Cooke's one of the best lead producing areas in New Mexico. At least 100 individuals

occupied the town. The total value of the production was about \$4,000,000 until 1927 (Anderson 1957).

H. Air

Generally, the quality of air within the Cooke's Range WSA is good. The air quality in the WSA does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The mineral resources potential of the WSA is shown on Map 33-2. Approximate locations of mining claims are shown on Map 33-3.

Approximately 216 acres of the Massacre Peak Petroglyph Area (total of 240 acres) and 2,277 acres of the Fort Cummings Recreation Area (total 5,999 acres) are within the WSA. These areas were classified for recreation and historic purposes under the Classification and Multiple Use Act of 1964 and are presently segregated from all forms of mineral entry. Two areas within the WSA are covered by special stipulations for energy minerals leasing (BLM Las Cruces/Lordsburg MFP Amendment/EIS 1983). These stipulations apply to the leasable energy minerals, oil and gas and geothermal. The Hadley Draw Riparian Area is totally within the boundaries of the WSA. Energy minerals leases within this 1,350-acre area are subject to a protective stipulation for threatened or endangered wildlife species associated with the area's riparian habitat. This stipulation could limit surface use and occupancy. Portions (8,513 acres) of the Cooke's Range Wildlife Area (total 11,645 acres) are also within the WSA. This area is covered by a protective stipulation for nesting raptors which allows surface disturbing activities only from August 1 through January 31. As of April 15, 1986, there were no mineral leases within the WSA.

1. Energy Minerals (Uranium)

Uranium occurs in a fluorite vein in limestone approximately 2 miles north of the WSA in T. 20 S., R. 9 W., Section 12. Another occurrence of uranium has been found in T. 20 S., R. 8 W., Sections 10 and 11, with traces of fluorine and lead (New Mexico Bureau of Mines and Mineral Resources 1965). The presence of uranium in fluorite veins indicates possible uranium mineralization in the area of the WSA; however, the potential for uranium resources in the WSA is generally low because of the large deposits found in other areas.

2. Nonenergy Minerals

As of April 15, 1986, approximately 92 mining claims were recorded with BLM inside the WSA. Ten of these claims were located prior to the enactment of the Federal Land Policy and Management Act (FLPMA) on October 21, 1976, while the remaining 82 claims were located after this date. As stated under Energy Minerals above, a total of 2,493 acres within the southern part of the WSA is withdrawn from mineral entry of any type.

a. Base and Precious Metals (Lead, Silver, Zinc, Copper, Gold, Molybdenum)

The Jose and Cooke's Peak mining districts, just north of the WSA (T. 20 S. R. 9 W., Section 14 and T. 20 S., R. 9 W., Sections 13 and 24), produced lead, silver, zinc, copper, and gold as late as 1947, with some intermittent production after this time (Anderson 1957). Mineralization in these areas occurs in replacement bodies in the upper part of the Fusselman, just below

COOKE'S RANGE WSA (NM-030-031)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

MAP 33-2 MINERAL RESOURCE POTENTIAL*

Legend

— WSA BOUNDARY

Land Status*

■ BLM

□ PRIVATE

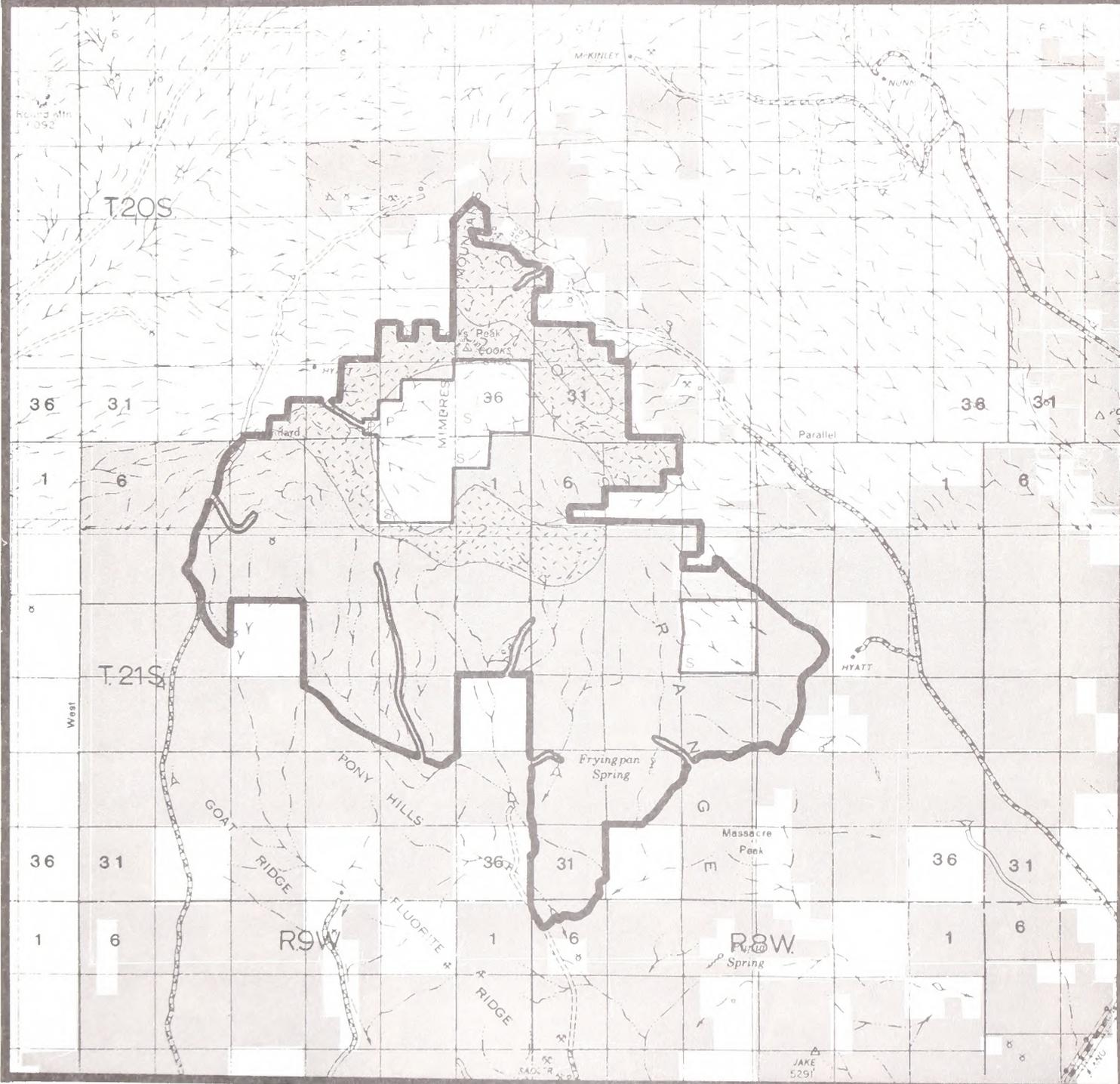
□ STATE

Scale: 1/2 inch = 1 mile

□ Base and Precious Metals

*Areas of high (1) and moderate (2) mineral potential are shown for lands within the WSA; the potential may extend outside the WSA boundary. Areas of low potential are not shown.

Source: USDI, BLM, Las Cruces District, April, 1986.



COOKE'S RANGE WSA (NM-030-031)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

MAP 33-3

MINING CLAIMS AND MINERAL LEASES*

Legend

— WSA BOUNDARY

Land Status*

- BLM
- PRIVATE
- STATE

Scale: 1/2 Inch = 1 mile

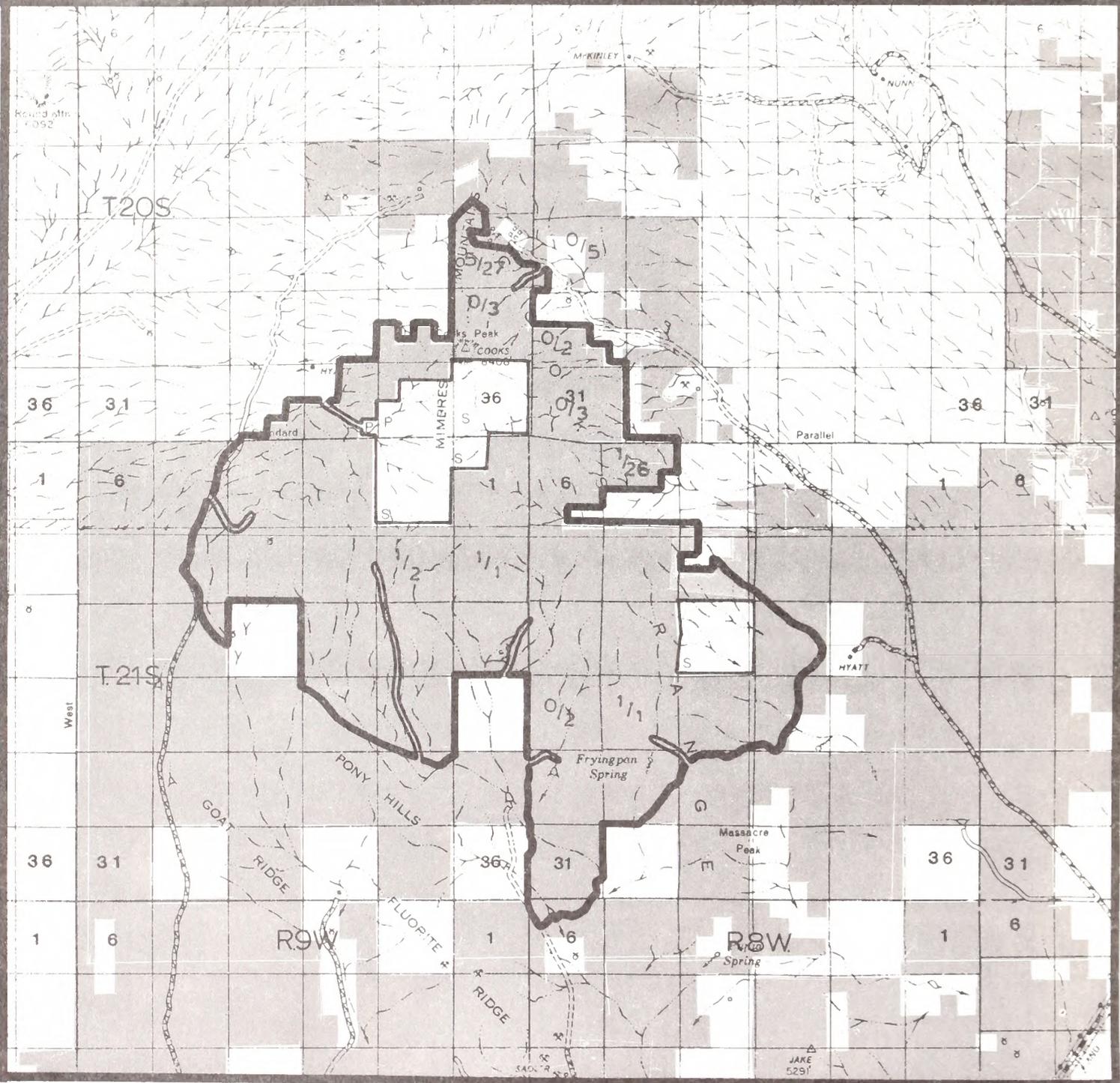
- 1/ Pre- FLPMA Mining Claims Per Section
- 2 Post- FLPMA Mining Claims Per Section

FLPMA was passed October 21, 1976.

(Claim information from BLM records dated April 15, 1986; claims which overlap more than one section are counted in each section in which they occur.)

*No mineral leases exist in the WSA as of BLM records dated April 15, 1986.

Source: USDI, BLM, Las Cruces District, April, 1986.



the Percha shale, and appears to be associated with silicification. Emplacement of the ore was apparently controlled by faulting as well as by the barrier formed by the impermeable Percha formation (Jicha 1954). One mine on the western edge of the Jose mining district contains wulfenite crystals, although no production of molybdenum has been recorded.

Some mineralization has been discovered outside of the Fusselman, both in the Cooke's Peak granodiorite stock and in the Sarten sandstone (Jicha 1954). The ore occurrence within the granodiorite is within the WSA (T. 20 S., R. 9 W., Section 25) and has been known as the Silver Cave mine. This mine is said to have produced silver ore, with minor amounts of lead and zinc.

Lead, zinc, silver, and copper were also mined in the Old Hadley mining district, less than a mile east of the WSA boundary (T. 20 S., R. 8 W., Sections 29 and 32). The ore in this area occurs in Tertiary pyroxene andesite as shoots along veins. In many instances, the veins are controlled by fault patterns.

Because the Fusselman-Percha contact is inferred to occur at a depth of less than 1,000 feet in the northernmost part of the WSA (Jicha 1954), and because this area is directly adjacent to the Cooke's Peak mining district where ore has been produced along this contact, the potential for the discovery of metallic resources in this part of the WSA is high. An additional positive indicator for the presence of ore in this area is the mineralization found at the Silver Cave mine within the granodiorite. Moderate potential for the discovery of metallic resources within the WSA exists to the west and south of the Cooke's Peak granodiorite intrusive. In these areas, the Fusselman-Percha contact probably exists at depth, and mineralizing fluids might have travelled along this contact emplacing ore as in the Jose and Cooke's Peak districts. Potential is not as great in these areas as to the north simply because the areas are not as close to known producing mines. The potential for metallic mineral resources along the eastern boundary of the WSA is also moderate, primarily because of similar geology to the adjacent Old Hadley district.

b. Fluorspar

Large fluorspar deposits occur about 5 miles north of the WSA at the White Eagle mine (T. 19 S., R. 9 W., Section 34) and about 1 to 2 miles south of the WSA in the Fluorite Ridge mining district. Together, these two areas have accounted for approximately 19 percent of the total production of fluorspar in New Mexico (Williams 1966). Fluorspar occurs just north of the WSA at Hurricane Pass between the Cooke's Peak and Jose mining districts (T. 20 S., R. 9 W., Section 13) and may be representative of a regional fluorspar trend extending through the WSA. Because there is not other evidence to support this hypothesis, and because deposits would need to be extremely large and high-grade to compete with presently producing fluorspar mines (both domestic and foreign), the potential for fluorspar resources in the WSA is low.

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c. Decorative Stone

Some exposures of the Sarten sandstone in the southern part of the WSA, could be used as decorative stone. However, decorative stone is also available at other nearby locations such as Faywood, northwest of Cooke's Range. The lack of demand for decorative stone from this area combined with the lack of readily available transportation to market makes the potential for this commodity low.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE COOKE'S RANGE WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*
Energy Minerals			
Uranium	Occurs in fluorite veins	Low	--
Nonenergy Minerals			
Base and Precious Metals (Lead ^{a/} , Zinc ^{a/} , Copper ^{a/} , Gold, Molybdenum ^{a/} , Silver ^{a/})	Replacement shoots along Fusselman-Percha contact; also in quartz veins in granodiorite and in veins in Tertiary andesites	High Moderate	1,100 3,700
Fluorspar ^{a/}	Prospect in limestone associated with metallic mineralization	Low	--
Decorative Stone	Sarten sandstone	Low	--

Notes: *Acreage was not calculated for areas with low potential.

^{a/}Listed on the National Defense Stockpile Inventory of Strategic and Critical Minerals.

B. Watershed

Water use within the Cooke's Range WSA is primarily by livestock and wildlife. There is one well facility and three spring developments within the WSA (see Chapter III, Livestock Grazing). Additionally, several well facilities and dirt tanks for livestock watering are located just outside the WSA boundary. These developments are cherry-stemmed.

The Cooke's Range is within the Mimbres Valley declared underground water basin and ground water use is administered by the New Mexico State Engineer.

C. Livestock Grazing

1. Allotments

Parts of four grazing allotments are within the Cooke's Range WSA. Licensed grazing use on public land includes cattle and a few horses. Most of the Cooke's Peak area of the Cooke's Range is inaccessible to livestock due to the steep slopes.

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
Treasure Rockhound 2009	5,330	564	2,048	214	38%
R. May 2029	1,174	264	626	140	53%
Mimbres Mtn. Rush 2030	11,057	1,548	4,574	635	41%
T. L. Hyatt 3028	32,918	6,768	12,360	2,572	38%
TOTAL			19,608	3,561	

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Type of Development	Location
Mimbres Mtn. Rush 2030	interior fence	4 miles
T. L. Hyatt 3028	improved spring	T. 21 S., R. 9 W., Sec. 1
	2 improved springs	T. 21 S., R. 9 W., Sec. 11
	improved spring	T. 20 S., R. 9 W., Sec. 24
	well with watering facilities	T. 20 S., R. 8 W., Sec. 31
	interior fence	4 miles
	erosion control dikes and fences	T. 21 S., R. 8 W., Sec. 31 T. 22 S., R. 8 W., Sec. 6

Boundary Fences:

Mimbres Mtn. Rush 2030 and Treasure Rockhound 2009 2 miles
Treasure Rockhound 2009 and Hyatt 3028 2½ miles

Note: ^{a/}Information shown in tables reflects only Federal acres and animal unit months (AUMs), and rangeland developments on public land.

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D. Recreation

This WSA is currently used for rockhounding, hunting, hiking, picnicking, camping, and sightseeing. Vehicle related recreation use occurs on the WSA boundary roads and on the six roads cherry-stemmed into the WSA. Many of these roads require four-wheel drive vehicles.

Portions of the Massacre Peak Petroglyph Area near Frying Pan Spring and Fort Cummings Recreation Area are within the WSA. These areas were classified for recreation and historic purposes under the Classification and Multiple Use Act of 1964 and are presently segregated from all forms of mineral entry (see Chapter II, Cultural, and Chapter III, Energy Minerals).

E. Education/Research

Dr. Richard Spellenberg of New Mexico State University's Department of Biology has been working on a remnant population of Arizona cypress on Cooke's Range which is approximately 1 mile north of the WSA boundary.

F. Wildlife

Some possibility exists that the Cooke's Range WSA could be a future desert bighorn sheep transplant site, but there is no timeframe as yet. According to the New Mexico Department of Game and Fish (NMDGF), more intensive study is needed because of the human disturbance factor. The area is on the NMDGF study priority list (Sandoval 1982).

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The Cooke's Range WSA generally appears natural. Imprints of man within the WSA and along the boundary include access routes, rangeland developments, evidence of mining activity, and a telephone line.

Access routes include several vehicle ways (a total of approximately 8 miles) in the southern half of the WSA and six roads cherry-stemmed into the WSA from the west, south, east, and north boundaries. The ways have generally insignificant impacts on naturalness due to vegetative and topographic screening. The cherry-stemmed roads are also substantially unnoticeable. The rangeland developments located at the end of these cherry-stemmed roads impact naturalness locally. These developments include windmills and a large detention dam in Starvation Draw.

Rangeland developments located within the WSA boundary are substantially unnoticeable. These developments include a well with watering facilities, fences, and developed springs.

Mining activity in the northern portion of the WSA has had some impact on naturalness. Although there are mine shafts, small tailings piles, and an abandoned tramway, the impacts are mitigated by vegetative and topographic screening.

The single-wire telephone line which crosses through the southeast portion of the WSA in T. 20 S., R. 8 W., Sections 19 and 20, is constructed on 10 foot wooden poles without cross pieces. The telephone wire is attached to existing fences east and west of these sections. The telephone line provides service between the Hyatt ranch headquarters and Treasure Rockhound ranch headquarters. The telephone line does not have a right-of-way. Although the line can be seen in the immediate area, its impact on naturalness is reduced by topographic screening and use of native materials.

The major topographic features of the WSA are virtually pristine. Rugged canyons and steep ridges have restricted development to the periphery of the WSA with only minor developments being constructed within the range itself.

The WSA appears to have been affected primarily by the forces of nature and the imprint of man's work is substantially unnoticeable.

b. Solitude

The WSA's size, configuration, and topography are the most important factors in determining the area's opportunities for solitude.

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The 19,608-acre WSA is approximately 7 miles long and from 1 to 6 miles wide. The large size of the WSA enhances opportunities for visitors to find a secluded place. The large block of undeveloped State and private lands which is cherry-stemmed into the northern portion of the WSA has little effect on opportunities for solitude at the present time. However, the resulting boundary configuration in this part of the WSA is such that outside sights and sounds could affect the quality of opportunities for solitude around Cooke's Peak.

The WSA's rugged topography also creates numerous opportunities for solitude. The major portion of the WSA in and around Cooke's Range provides outstanding opportunities for solitude. The combination of ridges and drainages creates a great deal of topographic relief and provides opportunities for seclusion in almost every drainage and on many of the ridges.

Opportunities for solitude in the creosote flats in the south and southwestern portion of the WSA are less than outstanding due to the lack of topographic screening.

c. Recreation

The Cooke's Range WSA offers a variety of primitive recreational opportunities. The area is large enough to support a three or four day pack trip. Opportunities also exist for rock climbing, horseback riding, and photography. Opportunities for deer hunting are good.

The rugged mountain range, with the steep ridges and canyons and lack of significant developments, offers an excellent opportunity to use outdoor skills and to interact with a natural environment. Opportunities for primitive recreation are enhanced by the size of the WSA and the diversity of vegetation and topography found in the WSA.

The State and private lands south of Cooke's Peak detract from the quality of opportunities for primitive recreation in the WSA. Hikers cannot climb the peak from the south nor can they hike directly through the WSA. Although visitors may still traverse the WSA by following the eastern and western boundaries, and the Peak is accessible along ridges from the north, east, and west, the primary point of interest in the WSA is not entirely available for recreational activities.

2. Special Features

The Cooke's Range WSA contains special ecological, cultural, and scenic features.

The ecological features include both vegetation and wildlife values of scientific and educational interest. The plant species in the WSA are numerous and diverse and in turn support a diverse wildlife community. Some reptiles of special scientific interest have been found in the WSA (see Chapter II, Wildlife). The WSA also provides habitat for a plant species listed as endangered by the State of New Mexico and a Federal endangered plant species (see Chapter II, Vegetation).

The special cultural and historical features of the WSA are among the most significant in the Las Cruces District (see Chapter II, Cultural). The Cooke's Range also has outstanding scenic features with a Class A (high) scenic quality rating (see Chapter II, Visual).

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the area as being in the Chihuahuan Desert Province with a potential natural vegetation of Trans-Pecos shrub savanna.

The general nature of the Bailey-Kuchler System fails to show the vegetation variety and diversity of the WSA. Further refinement of the system shows the following vegetation types in the WSA:

<u>Vegetation Type</u>	<u>Acres</u>
mountain mahogany oak scrub	13,899
creosote	3,068
grama-tobosa shrubsteppe	879
Trans-Pecos shrub savanna	1,762

b. Distance From Population Centers

The Cooke's Range WSA is approximately 3 hours driving time from El Paso, Texas; 2 hours from Las Cruces, New Mexico; 5 hours from Albuquerque, New Mexico; 5 hours from Tucson, Arizona; and 7 hours from Phoenix, Arizona.

B. Manageability

Both positive and negative factors affect the potential of the Cooke's Range WSA for being managed as wilderness: topography and size, the location of cherry-stemmed roads and rangeland developments, land status and boundary configuration, and pre-FLPMA and post-FLPMA mining claims.

The rugged topography and large size of the WSA would positively affect manageability of the area as wilderness. The area is large enough and rough enough to accommodate visitors without compromising opportunities for solitude or recreation. Visitors would be channeled somewhat by the topography, but they would not be so restricted as to gather in one or two portions of the WSA.

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Numerous roads are cherry-stemmed into the WSA. Vehicle use on these roads in combination with the local impacts of rangeland developments diminish the naturalness and solitude in the vicinity of the cherry-stemmed roads and thus affects the BLM's ability to manage the WSA to preserve wilderness values.

Cooke's Peak is the major topographic, recreational, and scenic focal point of the Cooke's Range WSA. However, all of Cooke's Peak is not in Federal ownership. Portions of the northwest, southwest, south, and southeast slopes of Cooke's Peak are in private and State ownership and as a result, the boundary in the north half of the WSA is very convoluted. Nonwilderness or nonconforming uses, such as mining activity, on these nonpublic lands could negatively affect the BLM's ability to manage the focal point of the WSA as wilderness. Mineral exploration and development are projected for areas of moderate and high mineral potential around Cooke's Peak. This development plus development on the adjacent non-Federal lands would complicate BLM's ability to manage the north half of the WSA as wilderness. Providing access across BLM land or surface disturbing activities on these lands would negatively affect naturalness and opportunities for solitude in the heart of the WSA.

Approximately 2,493 acres in the southeast part of the WSA are segregated from all forms of mineral entry. This acreage is within the Massacre Peak Petroglyph Area and the Fort Cummings Recreation Area which were classified for recreation and historic purposes under the Classification and Multiple Use Act of 1964. The segregation of these areas from mineral entry would enhance the manageability of the area as wilderness by protecting natural values, opportunities for solitude and primitive recreation, and special features from the impacts of mining activity.

There are numerous mining claims within the Cooke's Range WSA. The presence of these claims affects the manageability of the WSA in two ways:

1. The Federal Land Policy and Management Act (FLPMA) specifies that mining uses that existed on the date of approval of the Act may continue in the same manner and degree during the time that an area is under wilderness review. Such mining uses are grandfathered and may continue even if the uses would impair wilderness suitability.

In addition, mining claimants may be recognized as having a valid existing right if a valid discovery had been made on the claim before the passage of FLPMA on October 21, 1976, and the claimant can show BLM that the claim continues to be supported by such a discovery. Valid existing rights convey a more liberal development standard than grandfathered rights in that activities on valid claims are not limited to the same manner and degree. When it is determined that the valid existing rights can be exercised only through activities that will impair wilderness suitability, the activities will be regulated only to prevent unnecessary and undue degradation.

If any of the pre-FLPMA claims in the Cooke's Range WSA which meet the above criteria are developed, wilderness values could be degraded before the area is designated wilderness.

2. Once an area is designated wilderness, the provisions of the Wilderness Act of 1964 and the Wilderness Management Policy (WMP) (BLM 1981) apply. Under the Wilderness Act and the WMP, holders of mining claims validly established in an area prior to its designation as wilderness may develop their claims in accordance with the 43 CFR 3809 regulations, "Surface Management of Public Lands Under U.S. Mining Laws." Although exercise of the valid existing rights of mining claimants must be with the least possible impact on the wilderness resource and claimants will be required to prevent unnecessary or undue degradation of the land, mining operations may impair wilderness values if there are no reasonable alternatives. In this case, wilderness values could continue to be degraded after the area is designated wilderness.

The mining districts, north and northeast of the WSA, produced strategic minerals in the past. Many of the mines along the north and northeast boundary of the WSA are patented. Future production is both possible and unpredictable. The presence of known occurrences of strategic minerals coupled with the numerous mining claims in and around the WSA represents a major manageability concern in the long-term. It is estimated that approximately 10 of the 92 mining claims filed in the WSA would prove to be valid and that a low-level of development would occur on these claims. As a result, wilderness values in the vicinity of the claims would be degraded. For these reasons, the Cooke's Range WSA could not be managed to preserve existing wilderness values over the long-term.

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V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 19,608 acres of public land within the Cooke's Range WSA would be recommended suitable for wilderness designation. (See Map 33-1 for WSA boundary.)

If designated wilderness, the existing uses and activities in the area and the potential uses identified in BLM planning documents would be managed under the constraints of the Wilderness Management Policy (WMP) (BLM 1981).

1. Impacts on Wilderness Values

Under the All Wilderness Alternative, the rugged canyons and ridgetops, opportunities for solitude provided by the area's size and topography, and the outstanding opportunities for hiking, backpacking, hunting and other recreation activities would be preserved in the long-term over 75 percent of the WSA. However, the area surrounding Cooke's Peak could not be managed to preserve existing naturalness, outstanding opportunities for solitude and primitive recreation, and scenic values. Projected development of 10 valid mining claims in the north half of the WSA would result in degradation of wilderness values on approximately 25 percent of the WSA. The area's natural appearance and scenic features would be degraded by access roads, drill pads, and other surface disturbing activities. Opportunities for solitude and primitive recreation would be degraded by increased development and vehicle use and higher noise levels.

Vehicular use on the six cherry-stemmed roads in the WSA by recreationists, grazing permittees, and miners would disturb solitude in the vicinity of the roads.

Conclusion. Under the All Wilderness Alternative, the existing naturalness, opportunities for solitude and primitive recreation, and special features would be preserved in the long-term over 75 percent of the WSA. Development of valid existing mining claims would degrade wilderness values in 25 percent of the WSA.

2. Impacts on Exploration and Development of Metallic Minerals

Under this alternative, development work, extraction, and patenting of mining claims existing in the Cooke's Range WSA as of the date of designation would be allowed if the claims are determined to be valid. At the present time, there are approximately 92 existing mining claims in the WSA or overlapping the periphery. It is estimated that approximately 10 claims would prove to be valid and could be developed. Development is projected to include drilling of up to 10 test holes and construction of up to 3 miles of new road. The mining companies may incur additional costs of operation depending on restrictions on acceptable mining methods and the type and location of acceptable access.

No new exploration, prospecting, or location of new mining claims would be allowed after wilderness designation. Mineral trends could

not be followed outside of the existing valid claim boundaries. Full development of the mining district could not take place. The opportunity to explore an area of 1,100 acres with high potential and an area of 3,700 acres with moderate potential for base and precious metals would be forgone under the All Wilderness Alternative. Most of the minerals potentially in the WSA are on the list of strategic and critical minerals.

Conclusion. Under the All Wilderness Alternative, valid mining claims would be explored and developed but costs would likely be higher. Mineral exploration and development on the rest of the WSA would be foregone.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 10 head per section per year (3,561 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include a well with watering facilities, 4 developed springs and 12½ miles of fence. New rangeland facilities are not planned. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness (Proposed Action)

Under the No Wilderness Alternative, the entire 19,608 acres of public land in the Cooke's Range WSA would be recommended nonsuitable for wilderness designation.

If the WSA is not designated wilderness, it would be managed according to the Las Cruces/Lordsburg MFP Amendment (BLM 1984). This plan prescribes livestock grazing and energy minerals leasing as the primary uses of the area. Livestock grazing would continue at current levels, approximately 10 head per section per year (3,561 AUMs). The MFP Amendment identifies no new rangeland developments for the WSA; however, it is likely that new ones would be constructed in the long-term.

A total of 2,493 acres in the southern end of the WSA are completely segregated from mineral entry under authority of the Classification and Multiple Use Act of 1964. This area is classified for recreation and historic purposes. However, since the classification is an administrative one, it is subject to continued review, updating, and amending in subsequent planning cycles. The remainder of the WSA is open to

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energy mineral leasing; however, 9,863 acres are covered by special stipulations to protect wildlife and wildlife habitat. Energy mineral potential of the WSA is low. Unless economic conditions change or new data change the favorability classification, development is not projected.

In the 19,608 acres not designated as wilderness, unavoidable adverse effects would result from future surface disturbance activities. Over the long-term, these activities would reduce the quality of wilderness values by adversely affecting naturalness, opportunities for solitude and primitive recreation and special wilderness features. Also, cumulative short-term consumptive uses of this land would lead to long-term degradation of wilderness values. Nondesignation of 19,608 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

The wilderness values in the Cooke's Range WSA would not be provided with long-term Congressional protection. Management of the area as proposed in existing BLM land use plans would be subject to administrative change in the long-term.

All but 2,493 acres in the southeast corner of the WSA would be open to mineral exploration. There are 1,100 acres of high potential for base and precious metals and 3,700 acres of moderate potential for base and precious metals. Exploration could result in a total of 20-40 drill holes in areas of high potential and 10-20 drill holes in areas of moderate potential. Development in areas of high potential in the northern half of the WSA could result in approximately 50-100 acres of surface disturbance and up to 12 miles of new roads. Extensive mining development and the construction of the required vehicular access could degrade natural values, outstanding opportunities for solitude and primitive recreation, as well as the partitioning of the WSA into roadless areas less than 5,000 acres. Scenic character would change from substantially natural to semi-developed.

Unrestricted vehicular use on the existing ways and cherry-stemmed roads in the WSA by recreationists, grazing permittees, and miners would disrupt solitude in the vicinity of these trails and roads.

Conclusion. Under this alternative, wilderness values would be lost in approximately 50 percent of the WSA. Naturalness and scenic quality would be maintained on 2,493 acres which are closed to mineral entry.

2. Impacts on Exploration and Development of Metallic Minerals

Although 2,493 acres would remain segregated from all forms of mineral entry, the remainder of the WSA (17,115 acres) could be fully explored and prospected and additional mining claims could be located and developed. Although some commercial production may occur on a limited scale, large scale commercial production of minerals is not projected for the foreseeable future. Such activities would be regulated under the Surface Management Regulations (43 CFR 3809) to prevent unnecessary and undue degradation to the land.

Conclusion. There would be no impacts on exploration and development of metallic minerals under this alternative.

3. Impacts to Livestock Grazing

All rangeland developments could be checked and maintained on a convenience basis using motorized equipment. Livestock grazing use levels would continue at approximately 10 head per section per year (3,561 AUMs).

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Numerous public comments were received on the Cooke's Range unit during the public comment periods on the New Mexico Wilderness Review Initial Inventory Decisions (BLM 1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980). The WSA proposal for Cooke's Range was the second most commented on recommendation in the State. A map showing proposed boundary modifications and land status was included in the comments. Maps and photos of rangeland developments and roads also were provided. Comments opposing WSA status slightly exceeded comments favoring WSA status. Numerous form letters and petitions were received favoring WSA status for the area.

Comments favoring wilderness study cited the range's naturalness and outstanding opportunities for solitude and primitive types of recreation. The scenic, cultural, historical, and wildlife supplemental values of the area also were discussed.

Almost half of those comments opposing wilderness study cited mineral resource conflicts. Others discussed impacts resulting from rangeland management activities, nonpublic land inholdings, irregular boundary, and jet plane fly-overs.

More public inputs were received on the Cooke's Range WSA during the public review period on the Draft Environmental Assessment (DEA) Wilderness Study Areas in the Las Cruces District (BLM 1983) than any other WSA included in the document. The majority of the inputs (27 personal letters and 49 form letters) favored wilderness designation for the Cooke's Range WSA. Reasons for favoring wilderness designation fell into five categories: (1) basic wilderness values, (2) supplemental values, (3) size, (4) manageability, and (5) resource conflicts.

Comments regarding the area's basic wilderness values and supplemental values generally reiterated comments made in past public review periods. The Continental Divide Trail Society's comments stated that they favor routing the Continental Divide Trail through the Mimbres Mountains, along the east side of the Cooke's Range to Fort Cummings, Deming, and Columbus. The Society feels that this route would be superior to keeping the Trail along the actual Divide through the "bootheel." They favor wilderness designation for the Cooke's Range WSA so as to minimize the likelihood of developments that would detract from the recreational experience along the Trail.

Two comments indicated support for wilderness designation of an area greater than the 19,608-acre WSA. The acreage figures listed were 30,000 acres and 35,000 acres. Three other comments indicated that the WSA should be expanded to the north to include the endemic stand of Arizona cypress.

Comments regarding the manageability of the Cooke's Range WSA as wilderness varied. These included the general comment that the area is

manageable and disagreement with the use of manageability conflicts as the rationale for a nonsuitable wilderness recommendation. Several commentators indicated that the remoteness and ruggedness of the WSA would enhance wilderness management and the impacts of any future mining activities would be mitigated by vegetative and topographic screening, just as the existing impacts of past mining activities are now. Two comments expressed the opinion that cherry-stemmed private land in the WSA is not a manageability problem because it cannot be developed because of access and water problems, and the Federal mineral estate underlying the private surface cannot be mined without Government approval. Additional comments pertaining to the effects of the area's mineral values on manageability included: Congress can open the area if strategic minerals are needed in the future, BLM should only allow the development of existing claims and prevent further exploration, and the impending deadline for filing claims and the nature of the Cooke's Range will keep mining to a minimum. Several commentators suggested solutions to manageability conflicts. These included land exchanges for inholdings or contiguous non-Federal lands and closure of cherry-stemmed roads.

Pro-wilderness comments on resource conflicts in the Cooke's Range WSA all related to the area's mineral potential. The predominant attitude expressed in these comments was that the wilderness values of the Cooke's Range WSA outweigh mineral values. One commentator expressed the opinion that the conclusion in the WAR that there is high potential for nonenergy minerals at depth is not based on hard evidence that economic deposits exist. The comment went on to state that the extraction would be expensive and economic benefit questionable. Other comments included: the area has low potential for energy minerals, the WAR does not include a discussion of alternative sites in the region for those minerals found in the Cooke's Range, and the Government should not be concerned with the effects of wilderness on the value of valid claims in the WSA.

Fifteen personal letters were received opposing wilderness designation for the Cooke's Range WSA. More letters of opposition were received for this WSA than any other in the DEA. Two of the personal letters indicated agreement with the analysis in the WAR and one letter listed no reasons for opposing wilderness. The reasons cited in the other letters for opposing wilderness designation included: lack of naturalness due to mining activities and rangeland developments, the area has more roads than shown on map, and the area would be difficult to manage because of State and private inholdings.

Most of the comments listed the area's excellent potential for lead, zinc, and silver and past production of these minerals as reasons for opposing wilderness designation. One comment cited the area's oil, gas, and geothermal potential. Several comments expressed the opinion that additional exploration is needed to fully assess the area's mineral potential and wilderness designation would restrict mining activities too severely to allow continued development.

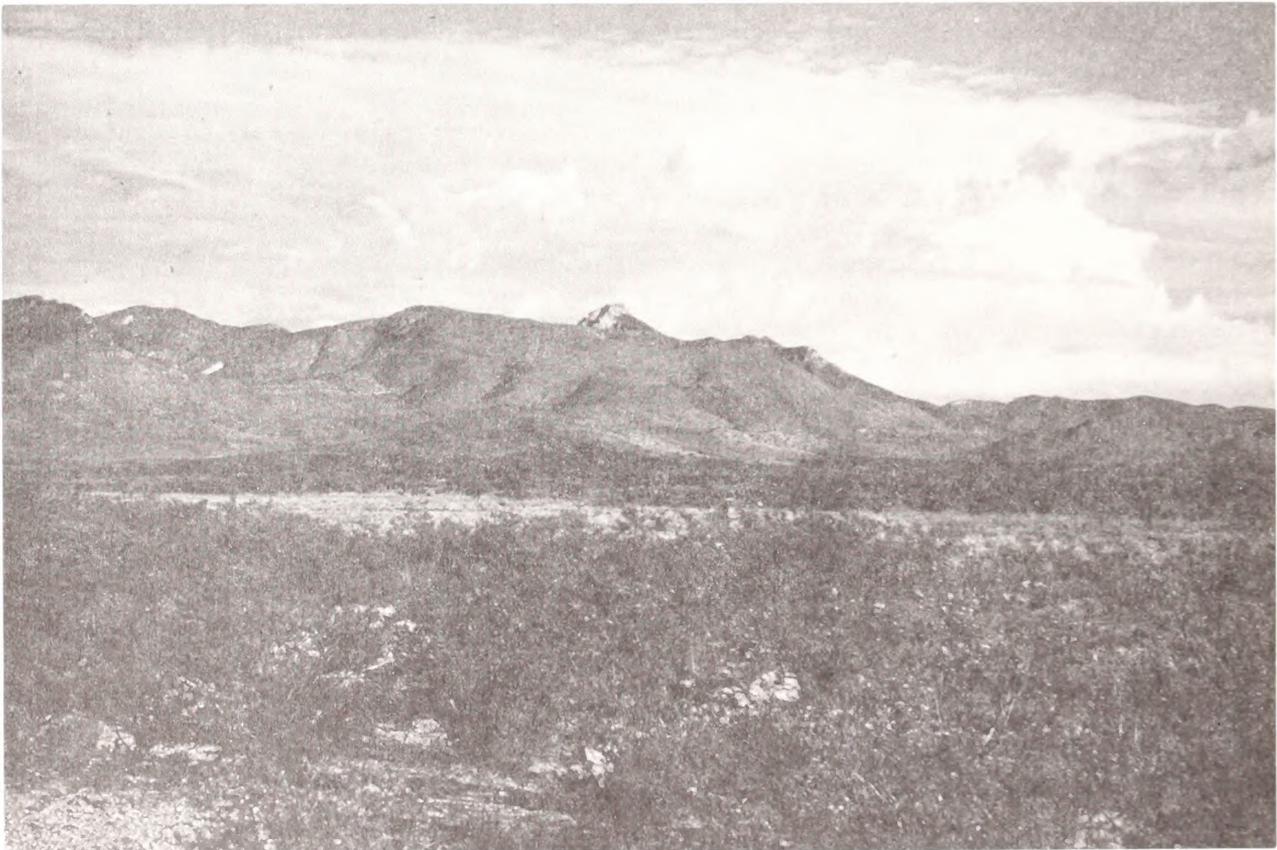
Other opposing comments speculated that wilderness would limit or ban access and collecting in this popular rockhound area and the area should

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remain open to the public. One commentator suggested that a recreation area be established in the Cooke's Range area to protect the Frying Pan Spring petroglyphs and Pony Hills withdrawal from grazing. The New Mexico Natural History Institute agreed that resource conflicts and manageability problems render the area a less than ideal wilderness, but "Strong management provisions to protect outstanding biological values should come by other means."

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico Wilderness Coalition. Alternative W included the Cooke's Range WSA. Thirty commentators specifically addressed the Cooke's Range WSA. Twenty-four commentators favored wilderness designation and five opposed it. One commentator expressed no opinion.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Cooke's Range WSA by 98 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.



Looking towards Cooke's Peak from the southern part of the WSA.

Public Review of the Revised Draft EIS

No. 0100-1

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The primary reason for BLM's negative recommendation for Cooke's Range WSA appears to be potential mining conflicts. As of April 15, 1986, there were 92 mining claims recorded with the BLM inside the WSA. Only 10 of these mining claims, however, are pre-FLPMA. In the analysis of the all-wilderness alternative, BLM found that the 10 valid mining claims could be explored and developed without destroying the wilderness values of the area, but costs would likely be higher."

Response: The primary reasons for the BLM's nonsuitable recommendation are mineral resource conflicts, impacts on mineral resource development, and the potential for conflicts between wilderness management objectives and permissible mineral development activities.

Approximately 4,800 acres on and around Cooke's Peak have high and moderate potential for base and precious metals. Wilderness management restrictions would allow development of valid claims but prevent full development of the area's potential mineral resources.

In the analysis of impacts under the All Wilderness Alternative, BLM estimates that 10 of the existing claims in the north half of the WSA would prove valid. Contrary to the Coalition's comment that "valid mining claims could be explored and developed without destroying the wilderness values," the analysis indicates that wilderness values in the north half of the WSA would be significantly degraded by development activities on valid claims. Even though development activities would be regulated to prevent unnecessary and undue degradation of wilderness values, the BLM's ability to manage the major attraction of the area, Cooke's Peak, as wilderness would be severely compromised. Mineral development on non-Federal lands south of Cooke's Peak would further complicate wilderness management of the area.

No. 0100-2

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "Given the high potential for undeveloped minerals that exists outside the WSA, the Coalition feels that the wilderness values of Cooke's Range WSA far exceed the potential mineral values within the area."

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No. 0100-2 (concluded)

Response: The BLM feels that the mineral potential in and around the Cooke's Range WSA presents a major manageability problem if the WSA is designated wilderness. As stated in Volume 4, p. 33-23 of the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), "the mining districts, north and northeast of the WSA, produced strategic minerals in the past. Many of the mines along the north and northeast boundary of the WSA are patented. Future production is both possible and unpredictable. The presence of known occurrences of strategic minerals coupled with the numerous mining claims in and around the WSA represents a major manageability concern in the long-term. It is estimated that approximately 10 of the 92 mining claims filed in the WSA would prove to be valid and that a low-level of development would occur on these claims." As indicated in Response 0100-1 above, BLM feels that wilderness values in the northern half of the WSAs would be significantly degraded by development activities on and around valid mining claims. As a result, the Cooke's Range WSA could not be managed to preserve existing wilderness values over the long-term.

* * * * *

No. 0112-1

Name(s): John S. Hingtgen

Comment: "Page 26-4, acreage totals are unclear; 19,608 acres is the sum of the first two categories on the right, as well as the sum of the next three, but that is not apparent from the way data is presented."

Response: Under the No Wilderness Alternative, the entire WSA (19,608 acres) would be open to various forms of mineral activity. Due to existing management designations and management restrictions placed on some parts of the WSA, not all areas would be open to all activities. The listing on the right side of Table 1 is intended to show how much acreage would be open to each type of activity and what type of restrictions may or may not be imposed. Total acreage open or closed to mining claim location equals 19,608 acres. Total acreage open to energy minerals activity, some areas with restriction, also equals 19,608 acres. For these reasons, numbers in the right column do not sum to the total for the WSA.

No. 0112-2

Name(s): John S. Hingtgen

Comment: "Page 26-11, references are sketchy. No mention of uranium occurrence is listed in either of the two references cited (Jicha, 1954 or Williams, 1966). Apparently BLM has access to other data, but it should be cited."

Response: The in-text reference (New Mexico Bureau of Mines and Mineral Resources 1965) was erroneously left out, and has been added to the Final Wilderness Analysis Report. The complete reference is listed in the References Section of Volume 1.

No. 0112-3

Name(s): John S. Hingtgen

Comment: "Statement that base and precious metals were produced as late as 1947 is incomplete: zinc, copper and gold have no record of production after 1942 (Jicha, 1954, pp. 65, 66)."

Response: In "The Metal Resources of New Mexico and their Economic Features through 1954" (Bureau of Mines and Mineral Resources Bulletin 39), Anderson (1957) reports the production of gold, silver, copper, lead, and zinc up to 1952.

No. 0112-4

Name(s): John S. Hingtgen

Comment: "Page 26-14, statement that Silver Cave Mine produced high grade silver ore is not found in reference (Jicha, 1954) and is not faithful to reference. The correct statement was 'the ore that occurred in pockets in the granodiorite was generally of higher grade. . . it amounted, however, for the most part, to only a few tons or less in each pocket.' (Jicha, 1954, p. 60)."

Response: You are correct. The sentence in question has been changed to read: "The mine is said to have produced silver ore with minor amounts of lead and zinc."

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No. 0112-5

Name(s): John S. Hingtgen

Comment: "Page 26-14, just because there may be mineral resources present 1,000 feet deep, doesn't mean it could be economical to mine them. Underground mining is used ever less nowadays since surface mining is so much cheaper."

Response: We are not saying that potential resources less than 1,000 feet deep would be economical to mine. We are saying that there is a potential for the discovery of metallic resources and are implying that, under proper technological and economical conditions, these resources may be economic.

No. 0112-6

Name(s): John S. Hingtgen

Comment: "Page 26-15, table should list molybdenum resource potential as 'unknown' rather than 'high or moderate.' No record of molybdenum mining exists, and the presence of wulfenite at one mine proves nothing.

Footnote saying these metals are listed on National Defense Stockpile Inventory seems to imply that ores of Cooke's Range may have significance to national security. That is misleading because major sources of all these metals are elsewhere and the economic resources in the Cooke's Range are insignificant."

Response: Wulfenite, which occurs in the WSA, is a minor ore of lead and molybdenum. Although there is no known production of molybdenum from the Cooke's Range, this does not preclude the possibility that an economic resource could be discovered. To classify the molybdenum resource as "unknown" would be irresponsible.

The National Defense Stockpile Inventory of Strategic and Critical Minerals is a listing of minerals which the Federal Government has determined to be of national significance either for defense or other purposes. In all WSAs where there was potential for the occurrence of these minerals, they were identified as being on the list as a point of information. This was not to imply that any of these minerals are currently or actively being acquired by the Federal Government nor does it imply that these WSAs are the only locations where these minerals may occur.

As we stated in the EIS, public attention is too often focused on current economic availability of known mineral deposits. Long-term planning must include some indication of the potential for discovering mineral resources in areas that currently have no known mineral deposits or whose known deposits are now considered

No. 0112-6 (concluded)

uneconomic. New geologic data, technological advances, and changes in economic conditions can generate interest in areas that have previously been considered unfavorable.

No. 0112-7

Name(s): John Hingtgen

Comment: "Statement that mining activities on land around peak are a good possibility are false. In order for mining to be commercially feasible, two conditions must be met: (1) large proved reserves, (2) rise in price of metals."

Response: The statement referred to was made on page 26-21 in the 1985 Draft EIS. The statement was deleted in the 1986 Revised Draft EIS and the following statement substituted on page 33-22: "Mineral exploration and development are projected for areas of moderate and high mineral potential around Cooke's Peak."

Mineral exploration entails determining if there are sufficient indicators that an ore body exists. Development would include core drilling to determine size, extent, and value of the ore body. Exploration may cause surface disturbance depending on the techniques being used. Mineral development would cause surface disturbance due to the need for access and drill pads. Actual production, or mining, would be dependent on findings during the development phase. At this time, no projections of mineral production are made for the Cooke's Range.

No. 0112-8

Name(s): John Hingtgen

Comment: "Mineral values within the Cooke's Range WSA are marginal in light of present-day economics. The value of all mineral resources is almost insignificant from a practical perspective and could be easily replaced through other sources."

Response: As we stated in the EIS, public attention is too often focused on current economic availability of known mineral deposits. Long-term planning must include some indication of the potential for discovering mineral resources in areas that currently have no known mineral deposits or whose known deposits are now considered uneconomic. New geologic data, technological advances, and changes in economic conditions can generate interest in areas that have previously been considered unfavorable.

APPENDIX 34

COWBOY SPRING WSA (NM-030-007)

I. GENERAL DESCRIPTION

A. Location

The Cowboy Spring Wilderness Study Area (WSA) is located in Hidalgo County, New Mexico in the east half of the southern Animas Mountains. The WSA is approximately 50 miles due south of Lordsburg, New Mexico.

The most recent U.S. Geological Survey (USGS) topographic maps (1982 provisional editions) for the area are the Center Peak, Horse Mountain, and Gillespie Mountain, New Mexico 7½-minute quadrangles.

B. Climate and Topography

The Cowboy Spring WSA is characterized by a semiarid, continental climate, with mild winters and pleasant to hot summers.

Average annual precipitation in the area is 10 to 12 inches. A wide variation in annual precipitation is characteristic of southern desert climates. Approximately half the annual precipitation occurs in July, August, and September as a result of thundershowers. The showers are generally brief but may be intense and result in flash floods in the arroyos. Snowfall generally averages about 5 inches a year.

During the summer months, daytime temperatures may reach 100°F. Average monthly maximum temperature during July, the warmest month, is in the middle 90's. In January, the coldest month, the average monthly minimum temperature is in the low 20's.

Winds are generated from the southeast in summer and from the northwest in winter, but local surface wind directions will vary greatly because of local topography. Spring is the windy season. Dry, gusty winds are predominantly from the west-southwest and may exceed 30 mph in the afternoons.

The WSA is dominated by Cowboy Rim, a prominent ridge 6,300 feet in elevation, running generally north-south through the east half of the WSA and curving to the west in the northern 1/3 of the WSA. Approximately 4 miles of the Cowboy Rim is within the WSA. Within the WSA boundary are the upper reaches of seven canyons that cut into the west side of Cowboy Rim. All of these canyons are tributaries of Walnut Creek, south of the WSA. The most prominent of these canyons is Elephant Butte Canyon, which is about 325 feet deep. Approximately 1½ miles of this canyon are within the

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WSA. An abrupt 500-800 foot bluff forms the eastern edge of Cowboy Rim. Bluff Creek cuts into the east side of Cowboy Rim in the southeast part of the WSA. Approximately $\frac{1}{2}$ mile of Bluff Creek Canyon is within the WSA boundary.

C. Land Status

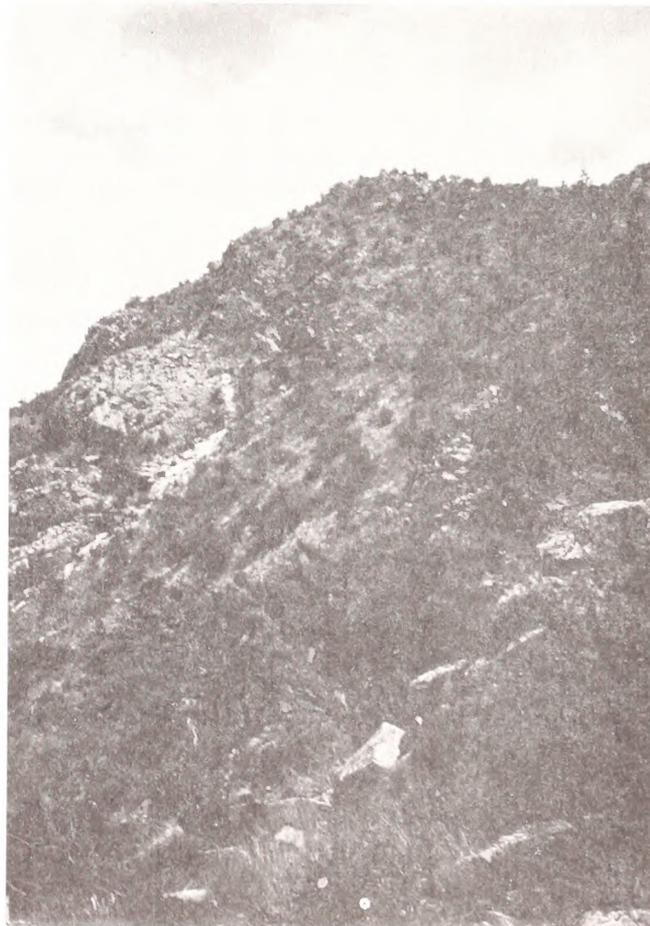
The WSA contains 6,699 acres of public land. There are no State or private inholdings. (See Map 34-1 for land status within the WSA boundary.)

D. Access

Two routes provide physical access to the Cowboy Spring WSA. Both routes cross private land. There is no legal access to the area. Permission from the private landowners is required to reach the WSA.

Access to the WSA from the west is by way of State Highway 338, 14 miles south of Animas, to County Road C020. The Double Adobe Creek road branches to the south-southeast off of C020 after about 2 miles and terminates at the Double Adobe Creek ranch house. From there, access to the WSA is via 10 miles of pasture roads on the Gray Ranch.

Access to the WSA on the east is by way of State Highway 81, 18 miles southwest of Hachita, to County Road C016. After about 9 miles west on C016 to Young's ranch headquarters, it is $4\frac{1}{2}$ miles southwest via a ranch road to the WSA.



Cowboy Rim.

COWBOY SPRING WSA (NM-030-007)

Proposed Action-All Wilderness Alternative

Legend

— WSA BOUNDARY

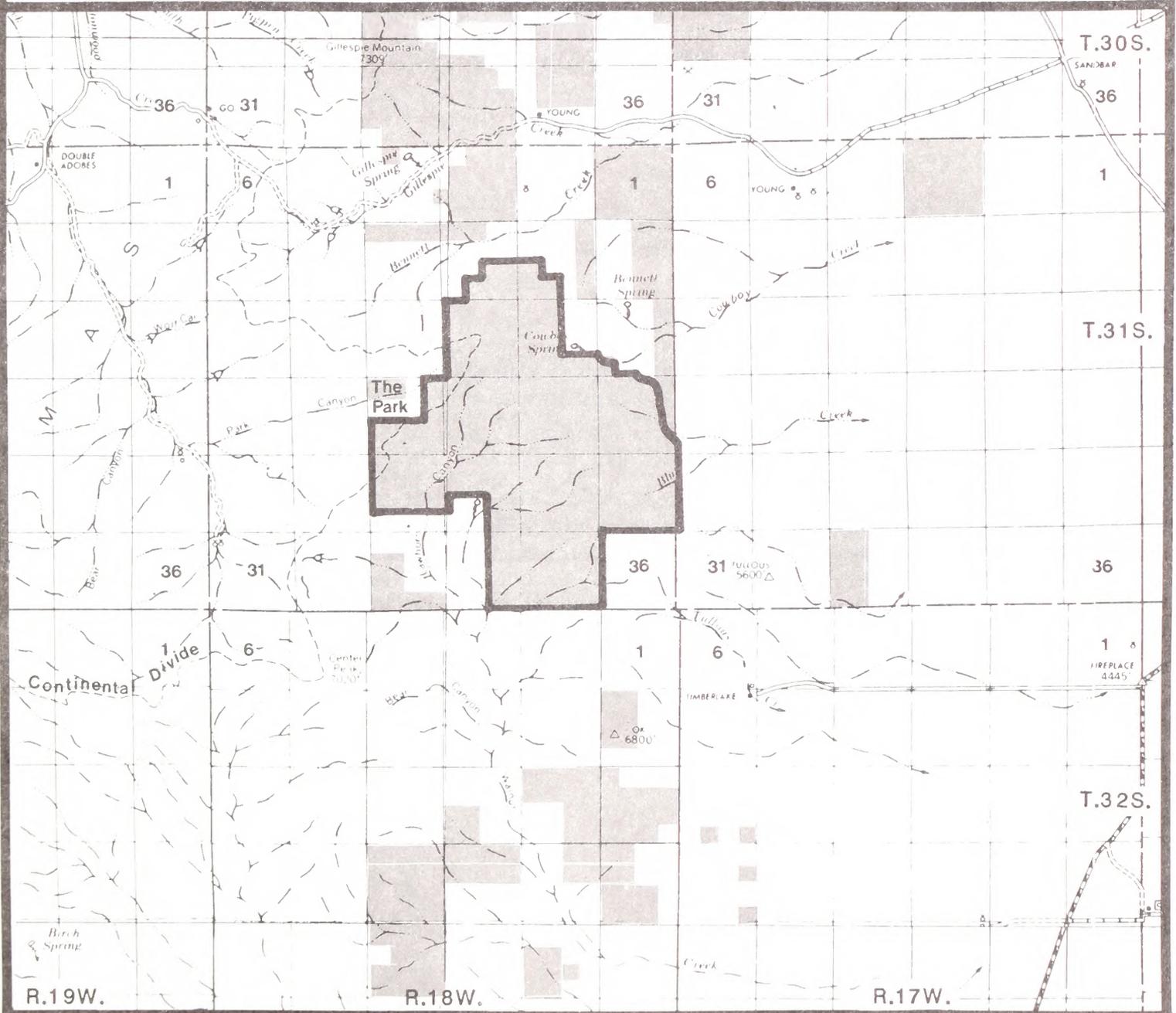
Land Status

- BLM
- P PRIVATE
- S STATE

Scale: 1/2 Inch=1 mile

MAP 34-1 LAND STATUS

Source: USDI, BLM, Las Cruces District, April, 1986.



E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A description of those actions associated with the proposal and alternatives is provided in Table 1. The proposed action for the Cowboy Spring WSA is the All Wilderness Alternative. The area is virtually pristine and offers outstanding opportunities for solitude and primitive and unconfined recreation. A special feature of the area is the unique assemblage of flora and fauna and represents the largest BLM-administered parcel of Madrean evergreen woodland in the State.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness (Proposed Action)	No Wilderness	Research Natural Area
<p>MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 6,699 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>MANAGE 6,699 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>MANAGE 6,699 ACRES AS A RESEARCH NATURAL AREA (RNA) WITHOUT WILDERNESS PROTECTION.</p>
<p>-Research and education opportunities would be protected for the unique vegetation and wildlife associated with the Madrean woodland. Ongoing research on feral hogs, vertebrates, and the effects of fire could continue.</p>		<p>-Research and education opportunities would be protected for the unique vegetation and wildlife associated with the Madrean woodland. Ongoing research on feral hogs, vertebrates, and the effects of fire could continue.</p>
<p>-Close 2½ miles of vehicle ways which currently receives low use (less than 100 vehicles per year).</p>	<p>-Vehicle use would be allowed to continue on 2½ miles of vehicle ways. Total vehicle use is estimated to be less than 100 vehicles per year.</p>	<p>-Vehicle use would be allowed to continue on 2½ miles of vehicle ways. Total vehicle use is estimated to be less than 100 vehicles per year.</p>
<p>-6,699 acres with low mineral potential would be closed to oil and gas leasing and mining claim location.</p>	<p>-6,699 acres would be open for oil and gas leasing with a protective stipulation preventing surface occupancy during desert bighorn sheep lambing season (potential desert bighorn sheep transplant site). No exploration or development is expected due to the low energy mineral potential.</p>	<p>-6,699 acres with low mineral potential would be open for oil and gas leasing with a protective stipulation preventing surface occupancy during the lambing season (potential desert bighorn sheep transplant site). No exploration or development is expected due to the low energy mineral potential.</p>
	<p>-6,699 acres would be open to mining claim location. No exploration or development is expected due to the low potential.</p>	<p>-6,699 acres would be closed to mining claim location.</p>
<p>-Desert bighorn sheep could be transplanted in the area.</p>	<p>-Desert bighorn sheep could be transplanted in the area.</p>	<p>-Desert bighorn sheep could be transplanted in the area. -Nonmotorized recreation use would be allowed as long as it did not conflict with the research objectives of the area.</p>
<p>-Current livestock grazing use levels of approximately 13 head per section per year (1,631 AUMs) would continue.</p>	<p>-Current livestock grazing use levels of approximately 13 head per section per year (1,631 AUMs) would continue.</p>	<p>-Current livestock grazing use levels of approximately 13 head per section per year (1,631 AUMs) would continue.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues Impacts on Wilderness Values
All Wilderness (6,699 acres) (Proposed Action)	The natural character of this mountain mahogany/oak scrub covered ridge, the outstanding opportunities for solitude, hiking, deer hunting, climbing, and photography would be maintained. Habitat for javelina, Coues' whitetail deer, golden eagles, and Montezuma quail would be maintained in a natural condition. In addition, habitat for night blooming cereus (a State-listed endangered species and candidate for Federal listing) and habitat for the coatimundi and Mexican Turkey (State-listed endangered animal species) would be protected from potential development.
No Wilderness (6,699 acres)	In the long-term, continued livestock grazing operations and continued vehicle use in the area would reduce naturalness and opportunities for solitude in 15 percent of the WSA.
Research Natural Area (6,699 acres)	Outstanding opportunities for solitude and primitive and unconfined recreation would be reduced in 10 percent of the WSA due to continued vehicle use. The area's natural character, unique vegetation features, and diverse wildlife habitat sites would be maintained. The State-listed endangered plant species, two State-listed endangered animal species, and research and education opportunities would be protected.

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II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The Cowboy Spring WSA lies within the Cowboy Rim cauldron which was formed as a result of explosive volcanic activity approximately 33 million years ago (Erb 1979). Structurally, Cowboy Rim is the upthrown block of a normal fault. Older structures in the area are obscured by thick deposits of Tertiary volcanics.

The major rock type in the WSA, including Cowboy Rim, is the Gillespie tuff, a thick welded tuff sequence which was probably erupted from the Cowboy Rim caldera. It is a dense, uniform, tannish pink cliff-former. Except for some Quaternary alluvium on the east side of Cowboy Rim, this is the youngest formation exposed in the WSA. A thin band of Cedar Hill andesite is exposed to the north and northeast of Cowboy Rim. It was erupted from the Juniper cauldron to the north (Erb 1979). The Bluff Creek formation, intermediate in age between the Gillespie tuff and the Cedar Hill andesite, is exposed in the southeast portion of the WSA. The Timberlake conglomerate is exposed on the eastern side of Cowboy Rim. This formation is of late Cretaceous-early Tertiary age and consists chiefly of limestone cobble conglomerate interbedded with sandstone, shale, claystone, and tuff.

B. Water

The Cowboy Spring WSA forms a portion of the upper watershed on the western side of the Playas Basin. This drainage is one of several closed basins west of the Rio Grande.

Surface water within the WSA collects primarily in ephemeral tributaries of Walnut Creek. This main channel drains southeastward from the WSA and predominates as sheet flow near the valley floor. Surface flow generally occurs as a result of summer thundershowers.

Information on ground water in the WSA is limited. General direction of ground water movement is to the southeast, but below the bluffs of Cowboy Rim, movement is to the northeast. Ground water in the Playas Valley is obtained from the permeable sediments of the valley-fill with additional potential in the lower alluvial fans. Ground water quality in the Playas Valley is within recommended limits for livestock and wildlife use, as established by the National Academy of Sciences (BLM 1980).

C. Soils

Soils of the Cowboy Spring WSA vary with the particular landform on which they are found. The most prevalent soil type occurs on steep hillsides at higher elevations where soils are shallow, stony, and are interspersed between areas of rock outcroppings. The soils become deeper and less rocky along the mountain footslopes and on alluvial fans at the base of the mountains. These soils are usually deep and very gravelly on the surface.

D. Vegetation

1. General

The vegetation and associated range sites within the Cowboy Spring WSA consist of the following types:

Vegetation Type	Range Site	Federal Acres
Juniper-mixed mountain shrub	Mountain	6,285
Grass	Mountain	410
Mixed mountain shrub	Gravelly sand	4

Vegetation in the Animas Mountains alternates between grass and mountain shrub depending on slope and exposure. Shrub and tree species are many and varied. These are juniper, agave, sotol, Wright silktassel, sumac, ocotillo, mountain mahogany, oak, beargrass, snakeweed, turpentine bush, and creosote. Grass species are as diverse and include gramas, needle and thread, tobosa, vine-mesquite, foxtail, Hall's panic, threeawns, bush muhly, and lovegrasses.

Grass species (consisting of gramas, vine-mesquite, threeawns, and lovegrasses) are the dominant vegetation types on the west slopes of the mountains. Various shrubs and trees such as juniper, oak, beargrass, and turpentine bush occur in small amounts.

Mixed mountain shrub and tree species on the gravelly sand range site in the sandy bottom of Park Canyon include oak, juniper, and beargrass. Grama grass is also present. This area was identified as a pseudoriparian site and special habitat for wildlife. Only about 4 acres of this site in the upper reaches of Park Canyon are within the WSA boundary.

2. Rare Plant Species

The following species was identified and located in or near the WSA (NMSHP and USFWS 1982; revised 1986).

Species: Cereus greggii - night blooming cereus

Status: Listed as endangered by the State of New Mexico, candidate for Federal listing.

Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

E. Wildlife

1. General

The largest part of the Cowboy Spring WSA is a mixed shrub habitat site. A smaller area of grass mountain is intersected by an oak draw. The proximity of these three sites creates an ecotone effect in which a diverse wildlife community is found.

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The rugged rim, which forms the north and east boundaries of the WSA, adds to the value of the habitat as does the isolation of the area.

Golden eagles are fairly common and may nest on the rim cliffs. Mountain lions move through the area. There are healthy herds of javelina and Coues' whitetail deer. The latter is close to the east end of its range in the WSA. Montezuma quail, an uncommon species, have been observed in the WSA. Feral hogs also are found in the area (see Chapter III, Education/Research).

2. Threatened or Endangered Fauna Species

After desert bighorn sheep, a State-endangered species, were transplanted into the Peloncillo Mountains in 1981, two rams left the area and moved into the Animas Range. One has periodically used the rim country of the WSA.

The gray wolf, which is on the Federal endangered species list, historically used the Animas and San Luis Ranges as a travel route. Approximately 5 years ago, a track was found within the WSA which could only be verified as a large canine track. However, the Gray Ranch biologist who found the track feels it is not likely that any domestic dogs were in the area (Steve Dobrott 1981).

Two other State-endangered species, the coatimundi and the Mexican turkey, are possibly found in the WSA. Both have been reported from the Animas Range and could find their preferred habitats in the WSA.

F. Visual

The Cowboy Spring WSA is located within the East Animas Mountains scenic quality rating unit. The unit has a Class B (moderate) scenic quality rating. The landform consists of a complex of hills and low mountains with rocky outcrops. The line of the landform is generally sloping or undulating with occasional broken, angular lines at outcrops. Landform colors are muted tans and browns. Vegetation occurs in dark green clumps and as concentrations along natural drainage courses.

The WSA is in a Visual Resource Management (VRM) Class IV.

G. Cultural

Three prehistoric sites have been identified in the Cowboy Spring WSA. They have not been fully evaluated but two of them could be significant from a research standpoint to explain the little known use of high altitude sites by Mogollon groups in the desert Southwest. Based on topography and water sources rather than a verifiable archaeological survey, the Cowboy Spring WSA has moderate potential for cultural resources in comparison to other WSAs in the Las Cruces District. There are also a number of historic cabins near the WSA.

H. Air

Generally, the quality of the air within the Cowboy Spring WSA is good. The air quality in the WSA does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

The Phelps-Dodge copper smelter, located in the Playas Valley approximately 9 miles northeast of the WSA, can degrade the air quality of the WSA if atmospheric conditions are such that inversion layers or prevailing wind direction carries the smelter emissions to the WSA. This would occur primarily during the winter months.

The only major degradation of air quality occurs during the spring months (March-May), when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The locations of lands under mineral leases and locations of mining claims are shown on Map 34-2.

1. Energy Minerals (Oil and Gas)

As of April 15, 1986, there were eight oil and gas leases in the WSA, all of which are post-Federal Land Policy and Management Act (FLPMA). A protective stipulation for wildlife values would be attached to energy minerals leases let within this area (BLM 1983). The stipulation could limit surface use and occupancy.

The core of the Winkler anticline, consisting of the Pennsylvanian Horquilla limestone, is exposed in T. 31 S., R. 18 W., Sections 3 and 4, about a mile northwest of the WSA. Overlying the Horquilla are sediments of Permian age. None of these rocks crop out in the WSA, but they may be present in the subsurface. Wengerd (1970) considered the Winkler anticline to be a prime prospect for petroleum exploration; however, data from the KCM No. 1 Forest Federal well, drilled in 1974, indicate otherwise. This well was drilled on the anticline in T. 31 S., R. 18 W., Section 3, about 1½ miles north of the WSA. The well encountered quartz latite dikes, a quartz monzonite pluton, and metamorphosed sedimentary rocks. According to Thompson (1977), this information virtually eliminates the Winkler anticline as a petroleum prospect. This information, combined with the fact that the WSA lies within the Cowboy Rim cauldron, indicates that the entire WSA has very low potential for oil and gas.

2. Nonenergy Minerals (Base and Precious Metals (Gold, Silver, Lead, Molybdenum), Fluorspar)

As of April 15, 1986, there were 18 mining claims recorded with the BLM within the WSA, 13 of which are pre-FLPMA.

There are no known occurrences of metallic minerals in the WSA. The closest occurrences are located north of the WSA at the Gillespie mine, the Red Hill mine, and the Athena Fluorspar prospect. The Gillespie mine (T. 31 S., R. 18 W., Section 4), located about 1½ miles northwest of the WSA, was developed along a silicified vein in a calcareous siltstone of the Permian Earp formation (Zeller and Alper 1965). Apparently, some silver was mined, but there is no evidence of any production. The Red Hill mine (T. 30 S., R. 17 W., Section 30), located about 3½ miles northeast of the WSA, was developed along a breccia and fissure zone in the Tertiary Oak Creek tuff. Small shipments of lead and silver ore were made in the early 1900's (Anderson 1957; Zeller and Alper 1965). Fluorspar occurs along fractures in the Horquilla limestone on the Winkler anticline north of the WSA (Zeller and Alper 1965).

Potentially economic mineral deposits, if any, appear to be confined to areas north of the WSA. The known mineral deposits in this area are geologically unrelated to rocks in the WSA. Additional exploration

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Proposed Action-All Wilderness Alternative

MAP 34-2

MINING CLAIMS AND MINERAL LEASES

Legend

— WSA BOUNDARY

 Post-FLPMA Oil and Gas Leases

Land Status

 BLM

 PRIVATE

 STATE

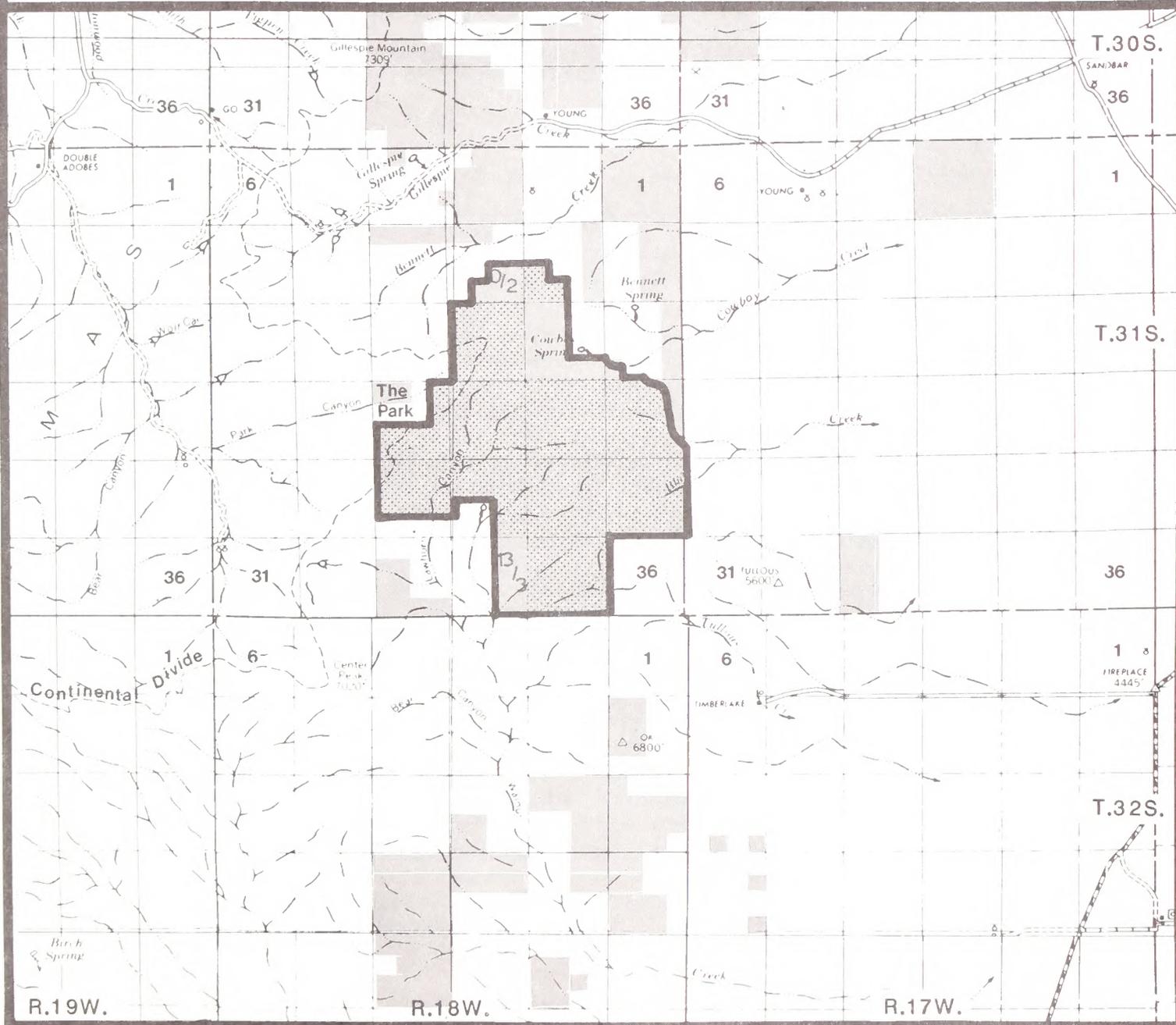
 Pre-FLPMA Mining Claims per section
 Post-FLPMA Mining Claims per section

(Claim information from BLM records dated April 15, 1986; claims which overlap more than one section are counted in each section in which they occur.)

Scale: 1/2 inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.

FLPMA was passed October 21, 1976.



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would be necessary to assess the full mineral resources potential of the WSA, which presently appears to be low. It is unlikely that future exploration or development for metallics or other minerals would occur in this area.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE COWBOY SPRING WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*
Energy Minerals			
Oil and Gas	Tertiary volcanics; possible anticline at depth	Low	--
Nonenergy Minerals			
Base and Precious Metals (Gold, Silver ^{a/} , Lead ^{a/} , Molybdenum ^{a/}), Fluorspar ^{a/}	Tertiary volcanics; faulting	Low	--

Notes: *Acreage was not calculated for areas with low potential.
^{a/}Listed on the National Defense Stockpile Inventory of Strategic and Critical Minerals.

B. Livestock Grazing

1. Allotments

Parts of two grazing allotments are within the Cowboy Spring WSA. Some of the Cowboy Spring WSA is unsuitable for grazing by livestock because of steep slopes. Licensed grazing use on public land includes cattle and a few horses.

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate Aums in WSA	Percent Allotment
Timberlake 1066	4,200	1,056	4,087	1,024	97%
H. Young 1073	11,624	2,760	2,612	607	22%
TOTAL			6,699	1,631	

Note: ^{a/}Information shown in table reflects only Federal acres and animal unit months (AUMs).

2. Ranch Management

There are 1½ miles of boundary fence between the H. Young allotment (1073) and Timberlake allotment (1066).

C. Recreation

Although access to Cowboy Spring is limited, some deer hunting takes place in the WSA. The WSA is surrounded by private land and general public hunting is discouraged by the surrounding landowners. The Victorio's Gray Ranch on the east side of the WSA leases hunting rights on its private land. Some of these hunters probably spill over onto the public land within the WSA, especially in the area along the vehicle trail which provides access to the Park, an old homestead adjacent to the northwest boundary of the WSA.

The Continental Divide passes through the Cowboy Spring WSA. A specific route through southwestern New Mexico has not yet been identified for the Continental Divide National Scenic Trail; however, locating the Trail on the actual Divide through the Cowboy Spring WSA is an alternative.

D. Education/Research

Dr. V. W. Howard of New Mexico State University is studying feral hogs in the Animas Mountains. Joe Cook of the University of New Mexico has been studying vertebrates and the effects of fire in the Animas Mountains. This research involves a wide area including parts of the WSA.

Additional information gathered in response to public comments received during the review of the Draft Environmental Assessment and Wilderness Analysis Report indicates that the Cowboy Spring area meets the criteria for a Research Natural Area (RNA) as defined in 43 CFR 8223. A RNA is defined as an area that is established and maintained for the primary purpose of research and education because the land has one or more of the following characteristics: (1) a typical representation of a common plant or animal association; (2) an unusual plant or animal association; (3) a threatened or endangered plant or animal species; (4) a typical representation of common geologic, soil, or water features; or (5) outstanding or unusual geologic, soil, or water features. The Cowboy Spring area meets (1), (2), and (3) of the alternative criteria for a RNA.

The western boundary of the Cowboy Spring WSA is approximately 2 to 3 miles from the eastern edge of the 46,000-acre area of private land within the Animas Mountains identified as the top-rated "proposed unique ecosystem" by the U.S. Fish and Wildlife Service (USFWS) in their "Concept Plan Unique Wildlife Ecosystems New Mexico" (1979). The ultimate objective of the Unique Wildlife Ecosystems Program (UWEP) was "the preservation of unique and/or nationally significant wildlife ecosystems which are required to maintain viable wildlife communities within their historic range." At the time Concept Plans were prepared, the USFWS' ultimate goal was to eventually acquire lands identified as unique ecosystems. However, since that time, the USFWS has cancelled all plans for activities or acquisition in the Animas Mountains (Dunkeson 1984).

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The Animas Mountains, including Cowboy Spring, are located at a transition point between the Colorado Plateau to the north and the Sierra Madre Occidental of Mexico to the south. As a result of this location, a wide variety of plant and animal species representative of both of these provinces can be found in the Animas Mountains.

The USFWS report identified five major community or habitat types in the 46,000-acre proposed unique ecosystem project area to the west of Cowboy Spring. The habitat types in the project area are: (1) grassland (dominated by tobosa grass, black grama, and some mesquite); (2) lower encinal (principally Mexican blue oak, Arizona white oak, emory oak, and alligator juniper); (3) upper encinal (principally netleaf oak, silverleaf oak, alligator juniper, Mexican pinyon pine, Chihuahua pine, Mexican white pine, and Apache pine); (4) montane forest (principally ponderosa pine, Douglas fir, and Gambel oak); and (5) riparian woodland (primarily Arizona sycamore, velvet ash, Apacheplume, and snowberry). (Note: The habitat type descriptions used by the USFWS are not equivalent to the standard habitat sites identified by BLM in their Integrated Habitat Inventory Classification System (IHICS). IHICS information was used in preparation of the wildlife sections of this report.) This diversity of habitat types does much to account for the diversity of flora and fauna in the project area. Over 48 species of mammals, 110 species of birds (at least 85 of which are breeding), 22 species of reptiles and amphibians, and 36 species of butterflies have been found in the project area as well as approximately 715 species of plants, representing over 25 percent of the flora of New Mexico.

Two of the community or habitat types described above, grassland and lower encinal, plus an additional type, xeric shrubland, can be found in the Cowboy Spring WSA (Applegarth et al. 1980). Xeric shrubland is characterized by turpentine bush and broom snakeweed and often includes whitethorn, agave, sage species, grama grasses, sotol, ocotillo, muhlys, beargrass, prickly pear, mesquite, and yucca. The Cowboy Spring area provides habitat for many of the interesting and unique species found in the main part of the Animas Mountains to the west, such as the Coues' whitetail deer, Mearns quail, and Yarrow's spiny lizard, as well as the State-listed coatimundi and Mexican turkey.

Because the Cowboy Spring area is located along a transition zone between the Madrean evergreen woodlands of the Animas Mountains and the semidesert grasslands to the east, the WSA area also hosts a unique assemblage of flora and fauna and provides scientific and education opportunities. In addition, the area is the largest BLM-administered parcel of Madrean evergreen woodland in the State.

The management objectives of the Cowboy Spring RNA would be fivefold: (1) to preserve a sample of the Madrean evergreen woodland community and the unique vegetation and wildlife associated with the area; (2) to provide research and educational opportunities for scientists, educators, and others in the observation and study of this particular ecosystem. Scientists and educators would be encouraged to use the area in a manner that is nondestructive and consistent with the purpose for which

the area is established; (3) to preserve the full range of genetic diversity for native plants and animals; (4) to provide a basis for organized research and exchange of information on RNAs; and (5) to allow nonmotorized recreation activities as long as such activities are compatible with the scientific, research, and educational objectives for the area.

E. Wildlife

There are no existing wildlife developments in the Cowboy Spring WSA. The WSA is a potential transplant site for desert bighorn sheep, although there is a problem because the ewes in the Peloncillo Mountains herd are pneumonia carriers. Sheep from a Cowboy Spring herd could move between the Peloncillo Mountains, about 25 miles to the northwest, and the Big Hatchet Mountains, about 15 miles east, carrying pneumonia to the Big Hatchet Mountains herd. According to Andy Sandoval of the New Mexico Department of Game and Fish (1982), if a pneumonia vaccine were developed, the Cowboy Spring Rim could be considered as a likely transplant site.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The Cowboy Spring WSA is natural. The two fences within the area are constructed of wooden posts and are substantially unnoticeable.

A vehicle way enters the WSA from the southwest, providing the only access to the Park, an old homestead adjacent to the northwest boundary. Approximately 1 mile of the way crosses the western part of the WSA. Approximately 1½ miles of a two track way crosses just inside the southern boundary of the WSA.

With the exception of the imprints of man described above, the Cowboy Spring WSA is virtually pristine and appears to have been affected only by the forces of nature.

b. Solitude

The Cowboy Spring WSA provides outstanding opportunities for solitude. Several factors affect the quality of these opportunities.

Most of the area is rugged and the remoteness of the area from any habitation enhances opportunities for solitude. Although the topographic relief and vegetative screening provide secluded niches where visitors might escape the sights and sounds of others in the WSA, the small size of the area would make it difficult to avoid other visitors to the area. The Wilderness Study Policy (BLM 1981) specifies size as a feature to be considered in evaluating the quality of an area's outstanding opportunities for solitude and states that "the emphasis is on the opportunities a person has to avoid the sights, sounds, and evidence of other people within a particular WSA... ." Certainly, it is more difficult to avoid other people in an area of limited size than it would be in a large area.

The Cowboy Spring WSA is surrounded on the north, south, and west by vast undeveloped areas of the rugged and, in places, densely vegetated Animas Mountains. The topographic aspect of the Cowboy Spring WSA, with its highest elevations along Cowboy Rim in the east and major drainages running generally south-southwest towards Walnut Creek, tends to focus attention on the main peaks of the Animas Range to the west and southwest. These peaks reach 8,000 feet at a distance of approximately 7 miles from the WSA. Because of its topographic aspect and small size, perceptions of outstanding solitude within most of the Cowboy Spring WSA (west of Cowboy Rim) are, to a large degree, dependent on the surrounding undeveloped non-Federal lands of the Animas Mountains.

c. Primitive and Unconfined Recreation

This WSA provides outstanding opportunities for primitive and unconfined recreation. The rugged topography, isolation, and lack of legal access preclude the use of vehicles in the area for motorized recreation. Opportunities exist for hiking, horseback riding, deer hunting, climbing, and photography. The opportunities for dayhiking are excellent since the area can be traversed in a day. Although numerous small canyons are available for exploration from a base camp, backpacking and horsepacking opportunities are limited by the size of the WSA. Because of the small size of the WSA, the quality and diversity of recreation opportunities is less than it would be for a similar area of larger size.

The vast undeveloped areas of the Animas Mountains that surround the WSA on the north, south, and west influence the wilderness values within the WSA. These surrounding lands increase the recreational appeal of the Cowboy Spring WSA and the quality of opportunities for primitive recreation are, like solitude, to a large degree, dependent on the surrounding undeveloped non-Federal lands.

2. Special Features

The Cowboy Spring WSA contains special ecological and cultural features of scientific and educational value.

The ecological features include both vegetation and wildlife values. The WSA provides habitat for a plant species listed as endangered by the State of New Mexico, also a candidate for Federal listing (see Chapter II, Vegetation). The presence of several different wildlife habitat sites within the WSA accounts for the wide diversity of wildlife found in the area. The area also provides habitat for the coatimundi and Mexican turkey, which are both State-endangered species (see Chapter II, Wildlife). The scientific and educational value of the WSA is evidenced by the fact that researchers at New Mexico State University and the University of New Mexico are presently engaged in wildlife-related studies in the Animas Mountains (see Chapter III, Education/Research).

The cultural features of the WSA consist of three prehistoric sites that may be of scientific and educational value (see Chapter II, Cultural).

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

COWBOY SPRING

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) system classifies this area as being in the Mexican Highlands Shrubsteppe Province. The potential natural vegetation is oak-juniper woodland.

The general nature of the Bailey-Kuchler System fails to show specific vegetation types of the WSA. Further refinement of the system shows the following vegetation types in the WSA:

<u>Vegetation Type</u>	<u>Acres</u>
grama-tobosa shrubsteppe	410
mountain mahogany-oak scrub	6,289

b. Distance From Population Centers

The WSA is approximately 4 hours driving time from Las Cruces, New Mexico; 5 hours from El Paso, Texas; 7 hours from Albuquerque, New Mexico; 5 hours from Tucson, Arizona; and 7 hours from Phoenix, Arizona.

B. Manageability

The Cowboy Spring WSA is manageable as wilderness in the long-term. The only potential manageability problem would be associated with mining claims in the WSA. After wilderness designation, development would be allowed only on those claims determined to be valid. It is difficult to project how many of the 18 claims which currently exist in the WSA would prove valid; however, due to the low mineral potential of the area, the likelihood of any claims proving valid and being developed is rather remote. As a result, any manageability problems associated with mining claims would not be significant.

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness (Proposed Action)

Under this alternative, the entire 6,699 acres of public land within the Cowboy Spring WSA would be recommended suitable for wilderness designation. (See Map 34-1 for WSA boundary.)

If designated wilderness, the existing uses and activities in the area and the potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the Wilderness Management Policy (BLM 1981).

In 6,699 acres designated as wilderness, closure to vehicle use will result and opportunities for exploration and development of minerals would be foregone. Short-term consumptive uses would not degrade the maintenance and enhancement of the long-term productivity. Although designation of wilderness constitutes a long-term commitment of resources, such designation is reversible by Congress.

1. Impacts on Wilderness Values

Under the All Wilderness Alternative, the area's wilderness values would be preserved. The high quality naturalness of the WSA would be maintained, and closure of the vehicle ways in the western and southern portions of the WSA would improve naturalness in 10 percent of the WSA. Although the vehicle ways are little used, closure would also improve opportunities for solitude. The transplant of desert bighorn sheep would enhance the special wildlife features of the Cowboy Spring area. Wilderness designation would ensure long-term protection for the wide variety of plant and animal species found in the area as a result of its location along the transition zone between the Madrean evergreen woodlands of the Animas Mountains and the semidesert grasslands to the east.

Conclusion. Under the All Wilderness Alternative, the WSA's high quality naturalness, outstanding opportunities for solitude, hiking, camping, deer hunting and photography, and unique ecological features would be preserved in the long-term. Naturalness and solitude opportunities would increase by 10 percent as a result of closing 2½ miles of vehicle way. Habitat for a potential transplant of desert bighorn sheep would be maintained in a natural condition.

2. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 13 head per section per year (1,631 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 1½ miles of boundary fence. New rangeland facilities are not planned. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

COWBOY SPRING

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

The 1 mile of vehicle way through the western part of the WSA provides access to the rangeland developments at the Park, an old abandoned homestead, just outside the WSA boundary. Since this way would be closed under wilderness management, alternate access outside the WSA boundary to the Park would be required. The impacts on the livestock operator (Timberlake 1066) of locating and possibly constructing an alternate access way to the Park would not be significant.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness

Under the No Wilderness Alternative, the entire 6,699 acres of public land within the Cowboy Spring WSA would be recommended nonsuitable for wilderness designation.

If the WSA is not designated wilderness, it would be managed according to the Las Cruces/Lordsburg Management Framework Plan (MFP) Amendment. This plan prescribes livestock grazing and energy mineral leasing as the primary uses of the area. Although the MFP Amendment does not identify any specific rangeland developments for the WSA, it is anticipated that maintenance of existing developments and construction of new ones such as fences and pipelines with troughs, would occur in the long-term.

Although the WSA would be open to energy mineral leasing, it is not likely that any exploration would occur due to the low oil and gas potential in the area. The WSA would also be open to mining claim location, but no surface disturbing activity would be expected unless there was a significant economic improvement in the mining industry.

1. Impacts on Wilderness Values

Since existing and proposed BLM plans do not identify any activities which would impair wilderness values, the entire area would probably retain its overall natural character in the short-term. Continuation of vehicle use on the vehicle trails in the western and southern part of the WSA would reduce opportunities for solitude and primitive recreation in 10 percent of the area. Continued livestock operations and possible construction of associated rangeland developments in the long-term would reduce the area's naturalness by 3-5 percent. The transplant of desert bighorn sheep would enhance the special wildlife features of the area.

Conclusion. Under the No Wilderness Alternative, the WSA's wilderness values would be maintained in the short-term, however, it is anticipated that over the long-term continued livestock operations and

vehicular access into the area would result in a reduction in the quality of naturalness and opportunities for solitude in 15 percent the WSA.

2. Impacts on Livestock Grazing Use Levels

Current livestock grazing use levels of 13 head per section per year (1,631 AUMs) would continue. Motorized vehicle use of the way in the western portion of the WSA would be allowed to continue without restrictions. Maintenance of existing facilities could be done with motorized equipment on an as needed basis.

Conclusion. Under the No Wilderness Alternative, there would be no impacts on livestock grazing use levels.

C. Research Natural Area

Under this alternative, the entire 6,699 acres of public land within the Cowboy Spring WSA would be recommended nonsuitable for wilderness designation. However, BLM would designate this area as a Research Natural Area (RNA).

Existing land use plans would be amended to allow administrative designation of the entire area as a RNA under the authority of 43 Code of Federal Regulations (CFR) 8223. The management objectives for the Cowboy Spring RNA would be as follows: (1) to preserve a sample of the Madrean evergreen woodland community and the unique vegetation and wildlife associated with the area; (2) to provide research and educational opportunities for scientists, educators, and others in the observation and study of this particular ecosystem. Scientists and educators would be encouraged to use the area in a manner that is nondestructive and consistent with the purpose for which the area is established; (3) to preserve the full range of genetic diversity for native plants and animals; (4) to provide a basis for organized research and exchange of information on RNAs; (5) to allow nonmotorized recreation activities as long as such activities are compatible with the scientific, research, and educational objectives for the area; (6) to close the area to motorized vehicles except for the way in the western part of the WSA to prevent degradation of the area's naturalness.

1. Impacts on Wilderness Values

The Cowboy Spring WSA's high quality natural values, outstanding opportunities for solitude, and special features would be substantially maintained under management as a RNA. The area's primitive recreation opportunities would be maintained, but making the area available to the public for recreation activities would have less priority than use of the area for education and research purposes. Management as a RNA would enhance the scientific and educational special features of the area since only those activities consistent with the purposes of the RNA would be authorized.

Conclusion. In the short-term, wilderness values in the WSA would be retained. In the long-term, the continued use of motorized vehicles in support of livestock grazing operations and for maintenance of grazing facilities would reduce naturalness and solitude opportunities in approximately 15 percent of the WSA.

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Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

The 1 mile of vehicle way through the western part of the WSA provides access to the rangeland developments at the Park, an old abandoned homestead, just outside the WSA boundary. Since this way would be closed under wilderness management, alternate access outside the WSA boundary to the Park would be required. The impacts on the livestock operator (Timberlake 1066) of locating and possibly constructing an alternate access way to the Park would not be significant.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness

Under the No Wilderness Alternative, the entire 6,699 acres of public land within the Cowboy Spring WSA would be recommended nonsuitable for wilderness designation.

If the WSA is not designated wilderness, it would be managed according to the Las Cruces/Lordsburg Management Framework Plan (MFP) Amendment. This plan prescribes livestock grazing and energy mineral leasing as the primary uses of the area. Although the MFP Amendment does not identify any specific rangeland developments for the WSA, it is anticipated that maintenance of existing developments and construction of new ones such as fences and pipelines with troughs, would occur in the long-term.

Although the WSA would be open to energy mineral leasing, it is not likely that any exploration would occur due to the low oil and gas potential in the area. The WSA would also be open to mining claim location, but no surface disturbing activity would be expected unless there was a significant economic improvement in the mining industry.

1. Impacts on Wilderness Values

Since existing and proposed BLM plans do not identify any activities which would impair wilderness values, the entire area would probably retain its overall natural character in the short-term. Continuation of vehicle use on the vehicle trails in the western and southern part of the WSA would reduce opportunities for solitude and primitive recreation in 10 percent of the area. Continued livestock operations and possible construction of associated rangeland developments in the long-term would reduce the area's naturalness by 3-5 percent. The transplant of desert bighorn sheep would enhance the special wildlife features of the area.

Conclusion. Under the No Wilderness Alternative, the WSA's wilderness values would be maintained in the short-term, however, it is anticipated that over the long-term continued livestock operations and

vehicular access into the area would result in a reduction in the quality of naturalness and opportunities for solitude in 15 percent the WSA.

2. Impacts on Livestock Grazing Use Levels

Current livestock grazing use levels of 13 head per section per year (1,631 AUMs) would continue. Motorized vehicle use of the way in the western portion of the WSA would be allowed to continue without restrictions. Maintenance of existing facilities could be done with motorized equipment on an as needed basis.

Conclusion. Under the No Wilderness Alternative, there would be no impacts on livestock grazing use levels.

C. Research Natural Area

Under this alternative, the entire 6,699 acres of public land within the Cowboy Spring WSA would be recommended nonsuitable for wilderness designation. However, BLM would designate this area as a Research Natural Area (RNA).

Existing land use plans would be amended to allow administrative designation of the entire area as a RNA under the authority of 43 Code of Federal Regulations (CFR) 8223. The management objectives for the Cowboy Spring RNA would be as follows: (1) to preserve a sample of the Madrean evergreen woodland community and the unique vegetation and wildlife associated with the area; (2) to provide research and educational opportunities for scientists, educators, and others in the observation and study of this particular ecosystem. Scientists and educators would be encouraged to use the area in a manner that is nondestructive and consistent with the purpose for which the area is established; (3) to preserve the full range of genetic diversity for native plants and animals; (4) to provide a basis for organized research and exchange of information on RNAs; (5) to allow nonmotorized recreation activities as long as such activities are compatible with the scientific, research, and educational objectives for the area; (6) to close the area to motorized vehicles except for the way in the western part of the WSA to prevent degradation of the area's naturalness.

1. Impacts on Wilderness Values

The Cowboy Spring WSA's high quality natural values, outstanding opportunities for solitude, and special features would be substantially maintained under management as a RNA. The area's primitive recreation opportunities would be maintained, but making the area available to the public for recreation activities would have less priority than use of the area for education and research purposes. Management as a RNA would enhance the scientific and educational special features of the area since only those activities consistent with the purposes of the RNA would be authorized.

Conclusion. In the short-term, wilderness values in the WSA would be retained. In the long-term, the continued use of motorized vehicles in support of livestock grazing operations and for maintenance of grazing facilities would reduce naturalness and solitude opportunities in approximately 15 percent of the WSA.

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2. Impacts on Livestock Grazing Use Levels

Current livestock grazing use levels of 13 head per section per year (1,631 AUMs) would continue. Motorized vehicle use of the way in the western portion of the WSA would be allowed to continue. Maintenance of existing facilities could be done with motorized equipment on an as needed basis.

Conclusion. Under the Research Natural Area Alternative, there would be no impacts on livestock grazing use levels.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Public comments were received on the Cowboy Spring unit during the public review periods on the New Mexico Wilderness Review Initial Inventory Decisions (BLM 1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980). Maps, photographs, road affidavits, and geological information on the oil and gas potential of the area were included with the comments.

Comments opposing wilderness review of the area dealt with resource and management conflicts such as visitor versus rancher, oil and gas potential, and conflicts with the Clean Air Act and the Phelps-Dodge copper smelter, 9 miles north of the WSA in the Playas Valley.

Comments supporting wilderness review of the area indicated that the unit offered opportunities for solitude because of its remoteness and offered outstanding recreation opportunities because of its ruggedness. Several comments identified the supplemental values of scenery and ecosystem relationships in support of the area.

During the public comment period on the Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District (BLM 1983), 60 public inputs were received on the Cowboy Spring WSA. Nine of the inputs expressed opposition to wilderness designation for the Cowboy Spring WSA. Three of these inputs listed no supporting reasons and one input expressed agreement with the rationale outlined in the Draft Wilderness Analysis Report (WAR). The remainder of the comments addressed the mineral potential of the area.

The vast majority of the inputs (29 personal letters and 27 form letters) favored wilderness designation for the Cowboy Spring area. Two primary categories of supporting reasons were cited: (1) disagreement with BLM's assessment of potential wilderness manageability conflicts and (2) the ecological values of the area.

Comments on manageability included expressions of disagreement with the use of manageability conflicts to support a nonwilderness recommendation and general statements that the area is manageable. Many comments specifically addressed certain manageability issues discussed in the WAR, such as access and surrounding non-Federal lands. Observations regarding access were varied and included: the area is manageable because access is poor; accessibility is not a wilderness requirement; easements for access can be acquired; and the lack of legal access is a major problem regardless of wilderness status.

Comments concerning surrounding non-Federal lands were also varied. These comments included statements such as; "work towards making the area surrounding the WSA enhance wilderness," "past and present owners of adjacent private land have shown responsible attitudes to land management and conservation. Designation of Cowboy Spring would enhance this approach," and "manageability concerns are based on speculation about future uses."

COWBOY SPRING

The second major category of pro-wilderness comments concerned the ecological values of the area. General comments included wildlife and plant habitat, unique and threatened wildlife, and biological and zoological values. The New Mexico Natural History Institute noted that "this small area of Madrean woodland is the best remaining Federally-owned piece of the Animas Mountains--The top-rated 'unique ecosystem' in New Mexico in the (U.S.) Fish and Wildlife Service's survey." The New Mexico Department of Natural Resources added that Animas Mountain is a top priority for future acquisition or protection by the Nature Conservancy.

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico Wilderness Coalition. Alternative W included the Cowboy Spring WSA and recommended wilderness designation for the entire WSA. Twenty-seven commentators specifically addressed the Cowboy Spring WSA, with 25 favoring wilderness designation and 2 opposing it.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Cowboy Spring WSA by 22 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

Public Review of the Revised Draft EIS

No. 0100

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The State land to the east and to the south of the WSA and the BLM land scattered among it provides an impressive enhancement to the geology, beauty, wildness, and size of the potential wilderness. The Coalition proposal encompasses all the WSA, 6,635 acres of additional BLM, 27,495 acres of State land, and an undeveloped quarter-section of private inholdings. Increasing the size of the area will reduce the future threat to naturalness and to solitude that development of the State lands could precipitate, and will significantly enhance the recreational opportunities of the WSA. Also, it is likely that many other cultural sites will be found in the added State and BLM lands."

Response: The BLM concurs with the New Mexico BLM Wilderness Coalition's comment that the addition of non-Federal lands to the south and east of the WSA boundary could potentially enhance a designated wilderness in the Cowboy Spring area, and reduce the potential for impacts on the designated wilderness resulting from nonconforming uses on the non-Federal lands.

No. 0100 (concluded)

These lands were not studied for wilderness suitability or identified for acquisition since they are non-Federal lands located outside the boundaries of the WSA. However, if these lands are acquired by the BLM at some future date, the lands would be inventoried for wilderness characteristics. Lands possessing wilderness characteristics would be studied by the BLM to determine their suitability or nonsuitability for designation. Depending on the result of that study, BLM would make a recommendation for wilderness designation.

* * * * *

No. 0128-1

Name(s): William L. Allen, Pacific Western Land Company

Comment: "Although Table 1, Description of the Proposed Action and Alternatives in both WSAs (Big Hatchet Mountains and Cowboy Spring) states that current grazing levels on permitted land would continue under wilderness designation, this philosophy does not seem to be evident in other parts of the study. In Table 2, Summary of Significant Impacts for Cowboy Springs, for example, it is stated in the No Wilderness discussion that the long-term continued livestock grazing operations, including construction of additional rangeland developments and continued vehicle use, would impact the WSAs naturalness and opportunities for solitude. If this is the case, why would grazing be allowed to continue under wilderness designation? This makes suspect the statements that grazing could continue, and PWLC believed that it is possible that such would eventually be disallowed under wilderness designation."

Response: While livestock grazing would continue under wilderness designation, the environmental impacts of grazing management would be much less than under nonwilderness management due to restrictions to protect wilderness values. For example, within wilderness areas, the use of motorized or mechanized equipment generally would not be allowed except in rare instances as permitted and prescribed by BLM. The construction of roads would not be permitted. The installation of rangeland developments requiring surface disturbance such as dirt tanks or pipelines would be restricted as to design, location, type of construction, and equipment used in construction. In some cases, these types of projects would not be permitted. Brush control projects and prescribed burns generally would not be allowed.

COWBOY SPRING

No. 0128-1 (concluded)

Under the No Wilderness Alternative, rangeland management activities would not be constrained by the requirement to maintain wilderness values. Use of motorized equipment, development of new roads, installation of rangeland developments resulting in surface disturbance, and other types of vegetation manipulation projects would be allowed as determined by sound livestock and rangeland management principles and BLM's general resource and environmental protection guidelines. As a result, it is expected that sometime within the next 50 years, naturalness and solitude in an area would be degraded to the point that the area would no longer meet wilderness criteria.

No. 0128-2

Name(s): William L. Allen, Pacific Western Land Company

Comment: "The third item is that there is already a great deal of physical evidence of man's previous intrusion into both areas. The areas are not pristine now, so how can they be called wilderness? Documentation detailing each incursion has been submitted to you previously."

Response: The Wilderness Act does not require that an area be pristine in order to be wilderness, but rather that the area "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." BLM acknowledges there is evidence of man's previous intrusion into both areas, but it is felt that the intrusions are substantially unnoticeable in the WSAs as a whole and do not detract from the naturalness of the areas.

* * * * *

No. 0132-1

Name(s): Joseph Kolessar, Phelps Dodge Corporation, New Mexico

Comment: "There has been no adequate mineral survey conducted by the U.S. Geological Survey, which is required by Section 603(a) of the Federal Land Policy and Management Act before a study area can be recommended for wilderness."

No. 0132-1 (concluded)

Response: Section 603 of the Federal Land Policy and Management Act requires that prior to the Secretary's recommendation for the designation of an area as wilderness, mineral surveys will be conducted on the area by the U.S. Geological Survey (USGS) and the U.S. Bureau of Mines. The field work for the mineral surveys in the Big Hatchet Mountains was completed in 1986. The final reports will be completed before the recommendations are sent to the President. The USGS and Bureau of Mines mineral survey reports, when completed, will be available for review by the public. If significant new information is presented in those reports, this EIS will be amended to incorporate that information.

No. 0132-2

Name(s): Joseph Kolessar, Phelps Dodge Corporation, New Mexico

Comment: "If the Big Hatchets and Cowboy Spring are designated as Wilderness, the area will be reclassified as Bureau of Land Management Visual Resource Management Class I area and possible a Class I Prevention of Significant Deterioration (PSD) area under the Clean Air Act, and Industry operations and expansion will be threatened. Phelps Dodge has invested over 400 million dollars in the smelter complex and the lands surrounding the smelter."

Response: Visual Resource Management Class I is assigned to special areas such as wilderness areas where a management decision has been made to maintain a natural landscape. According to BLM's Wilderness Management Policy, however, the fact that nonwilderness activities or uses can be seen or heard from areas within the wilderness shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area.

As stated in BLM's Wilderness Management Policy, the BLM will manage designated wilderness areas as Class II air quality unless they are reclassified by the State of New Mexico as a result of the procedures prescribed in the Clean Air Act (as amended, 1977).

APPENDIX 35

FLORIDA MOUNTAINS WSA (NM-030-034A)

I. GENERAL DESCRIPTION

A. Location

The Florida Mountains Wilderness Study Area (WSA) lies in the southeast quadrant of Luna County, approximately 10 miles southeast of Deming, New Mexico.

The U.S. Geological Survey (USGS) topographic maps covering the WSA are the Capitol Dome, South Peak, Florida Gap, and Gym Peak, New Mexico quadrangles. All four of these maps are at the 7½-minute scale.

B. Climate and Topography

The Florida Mountains WSA is characterized by an arid, continental climate. Annual precipitation totals average between 8 and 10 inches, with 12 to 14 inches at elevations greater than 6,000 feet. Over 50 percent of the total occurs from July through September as a result of high intensity, short duration thundershowers.

Temperatures reach a maximum in July with average afternoon temperatures ranging from 90° to 100°F. In the higher elevations, the temperatures are typically 10° to 15° cooler. Minimum temperatures during the winter months range from the low 20's to near freezing. Winter daytime temperatures tend to be mild, ranging from 35° to 50°F.

Surface winds are predominantly from the southeast in summer and from the northwest in winter, but local surface wind direction will vary greatly because of local topography. Spring is the windy season. Dry, gusty winds are predominantly from the west-southwest and may exceed 30 mph in the afternoons.

The Florida Mountain range rises over 2,800 feet above the surrounding basins and dominates the landscape for miles around. Several peaks have elevations of over 7,000 feet; among them are Florida, South, and Gym Peaks. The mountain range is approximately 10 miles long, trending north and south, and up to 5 miles wide. The topography is rugged with steep canyons and near vertical cliffs. Alluvial fans slope toward the valley floors on all sides of the mountain range.

C. Land Status

The Florida Mountains WSA contains 22,336 acres of public land. There are 80 acres of State inholdings and 27 acres of private inholdings within the WSA boundary. The private inholding is a patented mining claim. (See Map 35-1 for land status.)

FLORIDA MOUNTAINS WSA (NM-030-034)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

Legend

— WSA BOUNDARY

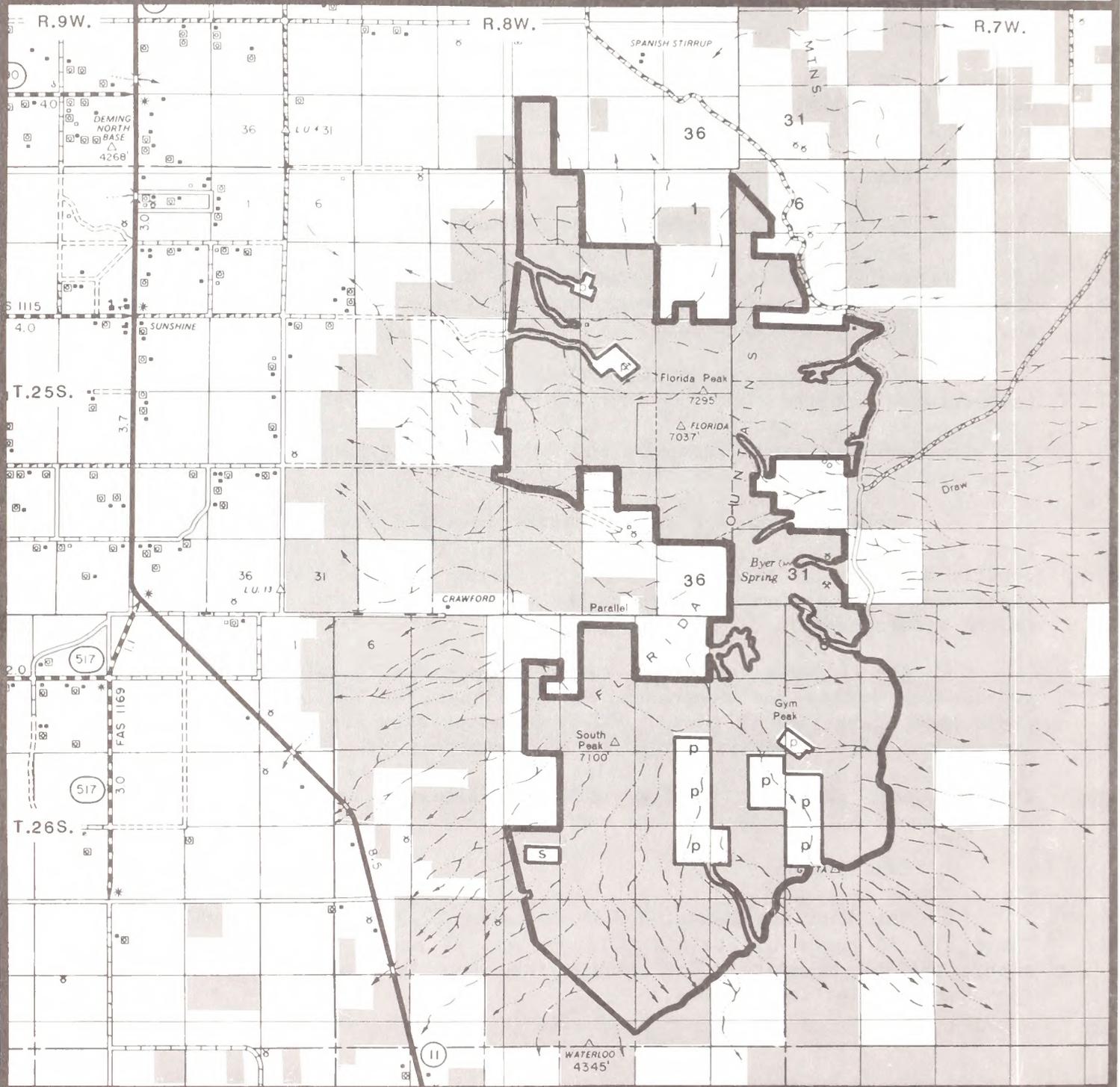
Land Status

-  BLM
-  PRIVATE
-  STATE

Scale: 1/2 Inch = 1 mile

MAP 35-1 LAND STATUS

Source: USDI, BLM, Las Cruces District, April, 1986.



D. Access

The Florida Mountains WSA is legally accessible from County Road B023. Approximately 4 miles south of Deming, New Mexico on State Highway 11, County Road B023 runs due east towards the Little Florida Mountains and Rockhound State Park. After about 6 miles, B023 turns to the southeast for approximately 5 miles. The County maintained road ends on the northeast boundary of the WSA. Additional physical access along the east and south boundaries of the WSA is available from the ranch road continuing south from B023.

E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A description of those actions associated with the proposal and alternatives is provided in Table 1. The proposed action for the Florida Mountains WSA is the No Wilderness Alternative. This recommendation is based on the area's mineral resource potential, the marginal quality of the area's naturalness and the potential for conflicts resulting from existing mining claims proving to be valid. At the present time, there are 263 mining claims located in the WSA. It is estimated that approximately 10 of these claims could prove valid. Development of these claims would degrade naturalness and opportunities for solitude and primitive recreation in the WSA. Portions of the WSA are cumulatively impacted by surface disturbance from past mining activity and other developments such as fences, jeep trails, and improved springs. The marginal quality of the WSA's naturalness diminishes the overall value of the area for preservation as wilderness.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

FLORIDA MOUNTAINS

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Including this Alternative
Designation as an Area of Critical Environmental Concern (ACEC) for Visual Resources	Although the Florida Mountains meet the minimum required criteria for a potential ACEC for visual resources because they rate high in scenic quality and relative scarcity, the total scenic resource (the mountain range) contains a significant amount of acreage in non-Federal ownership. Since the land status patterns would significantly limit BLM's ability to protectively manage the total scenic resource, this alternative was not analyzed further.
Designation as an ACEC for the Southwestern Barrel Cactus	An ACEC for the southwestern barrel cactus would not be appropriate because the Florida Mountains do not meet the identification criteria as outlined in the <u>Areas of Critical Environmental Concern Policy and Guidance</u> (June 1980).
Amended Boundary	Two potential Amended Boundary Alternatives were raised: (1) eliminating the Mahoney Park/Byer Spring area and dividing the WSA into two WSAs of 7,000 acres in the north and 13,000 acres in the south and (2) a partial wilderness alternative involving designation of the central core of the Florida Mountains WSA. These Amended Boundary Alternatives were not analyzed because the areas within the amended boundaries would still have conflicts with convoluted boundaries caused by non-Federal lands, conflicts with moderate to high mineral potential, and intrusions and impacts from past mining.

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on Oil and Gas and Uranium	No significant impacts were identified because of low potential throughout the WSA for oil and gas and uranium.
Impacts on the Following Threatened or Endangered Species: Night blooming cereus	No impacts were identified to threatened or endangered species. The U.S. Fish and Wildlife Service has concurred with BLM's finding of no affect on species Federally-listed or proposed for listing as threatened or endangered. Threatened and endangered species are recognized as a special feature of the wilderness and are addressed as part of the discussion of wilderness.
Impacts on Cultural Sites	Cultural resources were not selected for detailed analysis because there are few known sites and they are away from projected development areas. A detailed site-analysis would be required for any proposed surface disturbing activities.

Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	22,336 acres were identified during the inventory as having wilderness values.
No Wilderness (Proposed Action)	The No Action Alternative required by NEPA.

Environmental Issues Selected for Detailed Analysis

Three issues of concern are identified for the Florida Mountains WSA: impacts on base and precious metals, fluorspar, and manganese, impacts on the quality of the WSA's wilderness values, and impacts on livestock grazing use levels. Portions of the WSA have moderate and high potential for base and precious metals, moderate potential for manganese, and moderate potential for fluorspar. Concerns regarding mineral potential include restrictions to mineral development under wilderness designation and the possibility that mineral deposits in the Florida Mountains are not economically exploitable.

The second issue is the impacts on the quality of the WSA's wilderness values. This issue is based primarily on the effects of past mining activity, cherry-stemmed vehicle ways, and rangeland developments on the area's wilderness values.

Concerns regarding livestock grazing use levels include the inconvenience to livestock operators from vehicle restrictions under wilderness designation, as well as an expected increase in vandalism and harassment to livestock if it is not designated wilderness.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	No Wilderness (Proposed Action)
MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 22,336 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:	MANAGE 22,336 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:
-Attempts would be made to acquire approximately 3,260 acres of State and 3,490 acres of private lands within and adjacent to the WSA.	-No special attempts would be made to acquire State and private lands.
-Close 7 miles of vehicle ways which currently receives low use (less than 200 vehicles per year).	-Vehicle use would be allowed to continue on 7 miles of vehicle ways. Total vehicle use is estimated to be less than 200 vehicles per year.
-Require permits for vehicle access to maintain 4 dirt tanks, storage tank and trough, 17 miles of fences and 8 improved springs. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.	-Vehicle restrictions for maintenance of range-land developments would not apply. Maintenance of 8 springs and troughs, 4 dirt tanks and approximately 17 miles of fence would be done on an as needed basis. Vehicle trips would average about one per month.
-Proposals to improve forage species, to protect soil and vegetation, to control ibex population, and to continue ibex studies identified in the Florida Mountains Habitat Management Plan would continue to be implemented.	-Proposals to improve forage species, to protect soil and vegetation, to control ibex population, and to continue ibex studies identified in the Florida Mountains Habitat Management Plan would continue to be implemented.
-Use of helicopters for monitoring ibex populations or emergency repair of umbrella catchments would be allowed. Routine maintenance would be accomplished without use of motorized or mechanical equipment.	-Use of helicopters for monitoring ibex populations or emergency repair of umbrella catchments would be allowed.
-22,336 acres would be closed to future energy minerals leasing and mining claim location. This includes 900 acres of high potential and 1,000 acres of moderate potential for base and precious metals, 400 acres of moderate potential for fluor spar and 1,300 acres of moderate potential for manganese.	-22,336 acres would be open to prospecting, mining claim location, exploration, and development. Due to the mineral potential of the area it is expected that exploration and some development would occur. Exploration for base and precious metals would result in a total of 10 to 20 drill holes in areas of moderate potential. Development would result in an additional 10 to 20 acres of surface disturbance. Exploration for fluor spar would result in a total of 10 to 15 drill holes in areas of moderate potential. Development would result in an additional 10 to 20 acres of surface disturbance. Manganese exploration would result in a total of 5 to 10 drill holes in areas of moderate potential. An additional 5 to 15 acres of surface disturbance would result from development. Exploration and development would result in up to 200 acres of surface disturbance including an additional 8 to 15 miles of new access roads.
-Development activities for base and precious metals, fluor spar, or manganese could occur on valid mining claims including roads or trails for vehicle access and drill pads and drill holes.	-12,338 acres would be open to energy minerals leasing with a special stipulation to protect nesting raptors. No exploration or development is anticipated due to the low energy mineral potential of the area.
-Current livestock grazing use levels of approximately 7 head per section per year (2,553 AUMs) would continue.	-9,998 acres would be open to energy minerals leasing with no special stipulations. No exploration or development is anticipated due to the low energy mineral potential of the area.
-1,000 feet of pipeline for a livestock water could be installed if necessary for wilderness or rangeland protection.	-Current livestock grazing levels of approximately 7 head per section per year (2,553 AUMs) would continue.
-1,000 feet of pipeline for a livestock water could be installed with motorized access.	

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues	
	Impacts On Exploration and Development of Base and Precious Metals, Fluorspar, and Manganese	Impacts On Wilderness Values
All Wilderness (22,336 acres)	<p>Opportunities for exploration and low level development activities would be forgone in the following areas: 500 acres with high potential and 1,000 acres with moderate potential for base and precious metals, 400 acres with moderate potential for fluorspar, and 1,300 acres with moderate potential for manganese. Development of an estimated 10 valid mining claims involving an estimated 50 acres including 5 miles of new road would occur.</p>	<p>The area's rugged topography, numerous secluded canyons and ridges, outstanding opportunities for solitude and opportunities for hiking, backpacking, rock climbing, and hunting and scenic special features would be maintained over most of the area. These values would be locally impacted by development of an estimated 10 valid mining claims involving an estimated 50 acres and up to 5 miles of new road.</p>
No Wilderness (22,336 acres) (Proposed Action)	<p>No significant impacts. Mineral exploration and low level development is expected.</p>	<p>Wilderness values, particularly naturalness, would be adversely affected by mineral exploration and low level development. Approximately 30 percent of the WSA would be affected by mineral development on up to 200 acres. The 8 to 15 miles of new access roads would result in increased ORV use causing a degradation of the area's outstanding opportunities for solitude.</p>

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The oldest rocks exposed in the Florida Mountains are metamorphic rocks of Precambrian age. Precambrian plutonic rocks, including limited exposures of mafic intrusions and more extensive granitic and syenitic intrusions, form the core of the mountains. Approximately 3,700 feet of Paleozoic sediments were deposited on top of Precambrian basement rock, but uplift and erosion during the late Paleozoic and early Mesozoic eras removed large portions of these sediments (Clemons 1982). Deposition of late Cretaceous-early Tertiary sediments on Precambrian rocks in the northwest and southeast parts of the range was followed by deposition of a thick volcanic pile and the emplacement of aplite dikes.

Mountain-building activity began in the late Cretaceous period with the formation of thrust faults and steeply dipping reverse faults during the Laramide orogeny. These faults are particularly evident in the southern part of the Florida Mountains where Precambrian granite has been uplifted relative to Paleozoic sediments along a series of reverse faults. The present day Florida Mountains were uplifted along north-south boundary faults and tilted slightly to the east. Vertical displacement along the boundary faults appears to be about 4,000 feet (Corbitt 1971).

B. Water

The Florida Mountains WSA is situated within the southeast portion of the Mimbres Basin, a closed basin with interior surface water drainage.

Surface water within the WSA drains into the Mimbres Basin through an ephemeral stream system. Principal drainages include Spring and Windmill Canyons to the northeast; Capitol Dome Draw and Mexican Canyon to the northwest; and Copper Kettle, Box, and Victorio Canyons to the southeast. These ephemeral streams flatten out below the alluvial fan slopes and become a nonintegrated system of washes and arroyos in the valley floors. There are several scattered springs in the WSA; however, the springs' contribution to surface flow is limited. They are important locally in support of riparian vegetation.

Ground water in the WSA is available primarily from bolson deposits on the alluvial fans coming off the Florida Mountains. Secondary aquifers consist of Tertiary volcanics and Cretaceous shales, sandstone, and limestone. Water yields from these secondary aquifers are generally small.

The ground water reservoir is recharged mainly during flood runoff by infiltration in ephemeral stream channels. Ground water movement generally follows the direction of major drainage channels towards the valley floors. Water quality in the area is generally very good with low total dissolved solids and low dissolved metals content.

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C. Soils

Two major soil types occur in the Florida Mountains WSA. Soils at higher elevations are residual, ranging in depth from very shallow to moderately deep on slopes from 0 percent to over 70 percent. The soils are typically very cobbly and stony loams interspersed between areas of rock outcropping located on ridgetops, ledges, and cliffs.

At lower elevations, soils formed from mixed materials on old alluvial fans along the footslopes of the mountains. Slopes range from nearly level to about 10 percent. The soils are moderately deep to deep with textures ranging from very gravelly sandy loams to gravelly clay loams.

In addition to the two major soil types, the ephemeral streambeds in the canyon bottoms typically contain sandy soils stratified with gravels and cobbles. Texture and depth of the soils are variable depending on the amount of material deposited or removed by each flow of water.

D. Vegetation

1. General

The vegetation and associated range sites within the Florida Mountains WSA consist of five major types:

<u>Vegetation Type</u>	<u>Range Site</u>	<u>Federal Acres</u>
Grass-mixed desert shrub	Hills	12,907
Snakeweed-mixed desert shrub-grass	Gravelly loam	3,413
Creosote-grass	Gravelly	4,411
Snakeweed-mesquite-yucca-other shrubs and trees	Sandy	1,289
Other shrubs and trees-mixed desert shrub	Gravelly sand	316

Many grass species are present in the Florida Mountains WSA. Gramas and tobosa are the most prevalent grass species. Associated shrub species are varied and diverse. The main shrub and tree species on the mountain slopes include snakeweed, sumac, creosote, sotol, beargrass, mesquite, tarbush, prickly pear, feather peabush, yucca, and juniper.

Snakeweed, mixed desert shrubs, and grasses are the dominant vegetation on the gravelly loam areas on slopes around the base of the mountains. The mixed desert shrubs include mesquite, yucca, sumac, Mormon tea, spicebush, mariola, range ratany, and tarbush. Many other shrubs occur in small quantities. Major grass species present include black grama, tobosa, sideoats grama, threeawns, bush muhly, cane bluestem, and fluffgrass.

The gravelly soils on the south and east slopes of the mountains are dominated by creosote, snakeweed, and mariola. Associated grass species include grammas, threeawns, fluffgrass, and tridens.

Sandy soils occur in the flats surrounding the mountain range. Snakeweed, yucca, mesquite, and other shrubs and trees are the dominant vegetation types. Other shrub species include Mormon tea, Wright's buckwheat, range ratany, sumac, creosote, rabbitbrush, spicebush, fourwing saltbush, and whitethorn acacia. Grass species include tobosa, threeawns, cane bluestem, and sideoats grama in small quantities.

The gravelly sand range sites identified in lower elevation drainages are pseudoriparian and have been identified as having important wildlife values. Mixed desert shrubs and other shrubs and trees are the dominant vegetation types on this range site. These vegetation types include hackberry, Mormon tea, snakeweed, Apacheplume, sumac, mesquite, sotol, juniper, oak, desert willow, ocotillo, mimosa, pinyon, and walnut. Some grasses occur in small quantities.

2. Rare Plant Species

The following species was identified and located in or near the WSA (NMSHP and USFWS 1982).

Species: Cereus greggii - night blooming cereus.

Status: Listed as endangered by the State of New Mexico, candidate for Federal listing.

Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

E. Wildlife

1. General

The upper elevations of the Florida Mountains WSA contain mixed shrub mountain habitat sites with inclusions of pinyon-juniper sites. A variety of shrub sites are found around the edge of the mountains including creosote, mixed shrub, half-shrub, and snakeweed. Several pseudoriparian sites were identified in lower elevation drainages.

The Florida Mountains are fairly well-watered for a desert range. A number of springs and seeps are found between 5,000 and 6,000 feet. Some of these have riparian vegetation associated with them, such as cattails, willows, and grapevines. Water is also available high on the mountain in several locations at umbrella catchments, seeps, and a trough filled by a miner. Other special habitat features which encourage wildlife use are the extensive cliffs of the Florida Mountains. Prairie falcons and golden eagles both nest on these cliffs.

The wildlife community is similar in most ways to other desert mountain ranges such as the Cooke's Range and the Organ Mountains. The Florida Mountains host a desert mule deer population, prairie falcons,

eagles, red-tailed hawks, great horned owls, and nesting birds typical of mixed shrub mountain communities such as ladder-backed woodpeckers, canyon wrens, and black-chinned sparrows.

The wildlife community of the Florida Mountains also differs from nearby ranges. There is a small javelina population and the Florida Mountains are home to an introduced herd of Persian ibex. Fifteen individuals of this exotic species were released in the Florida Mountains in 1970. Seventy-three more animals were released at later dates. In September 1983, 647 Persian ibex were counted during an aerial census of the Big and Little Florida Mountains.

2. Threatened or Endangered Fauna Species

There are no known threatened or endangered animal species in the Florida Mountains WSA. Since there is excellent cliff nesting habitat, the range was included in a peregrine falcon survey conducted by the New Mexico Department of Game and Fish in 1980. Both aerial and ground surveys were run. The report concluded that the Florida Mountains do not provide suitable habitat for peregrine falcons.

F. Visual

Two scenic quality rating units describe the Florida Mountains WSA. Most of the WSA, composed of the peaks and slopes of the mountains, has a Class A (high) rating. The higher elevations are characterized by steep, angular rock outcroppings with jagged, vertical intrusions dominating the highest peaks. A variety of reds and grays are the predominant landform colors. The vegetation is diverse in random irregular patterns. Low shrubs and grasses are dominant at the lower elevations, with dark green juniper increasingly scattered in the higher elevations. Vegetation colors range from yellow to green.

The southern part of the WSA has a Class C, or low rating. This area is a flat to gently rolling alluvial plain. Coloration is typically light reddish brown. The vegetation is primarily grasses and low shrubs in muted greens and light browns. Unusually large barrel cacti are located in this part of the WSA.

Most of the WSA, approximately 18,336 acres, is within a Visual Resource Management (VRM) Class II area. Approximately 4,000 acres in the southern part of the WSA are in a VRM Class III.

G. Cultural

There are two known prehistoric sites in the Florida Mountains WSA. They consist of a series of bedrock mortars and a fair sized campsite. The campsite is somewhat unusual due to its large size. There has been virtually no survey in this area and none in the higher elevations. The most likely areas for locating undiscovered sites are along the major drainages leading out of the mountains.

Historic use of the WSA has been limited to ranching, which left few remains, and mining. It is not known if any significant structures remain from this period.

H. Air

Generally, the quality of air within the Florida Mountains WSA is good. The air quality in the WSA does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

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III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The mineral resource potential of the Florida Mountains WSA is shown on Map 35-2. Approximately locations of mining claims and mineral leases are shown on Map 35-3.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE FLORIDA MOUNTAINS WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*	
Energy Minerals				
Uranium	Disseminated in plutonic rocks	Low	--	
Oil and Gas	Relatively thin sequence of highly faulted Paleozoic and Mesozoic sediments	Low	--	
Nonenergy Minerals				
Base and Precious Metals (Lead ^a /, Zinc ^a /, Copper ^a /, Silver ^a /, Gold, Molybdenum ^a /)	Veins and fracture fillings in dolomite, or less frequently in Tertiary volcanics or Precambrian intrusives	High Moderate Low	500 1,000 --	
	Fluorspar ^a /	Replacement deposits and breccia filling along fault zones in limestone and plutonic rocks	Moderate Low	400 --
	Manganese ^a /	Veins, fracture fillings, and replacement pods in limestone and granite	Moderate	1,300
Barite	Veins in Tertiary sediments	Low	--	
Magnesium	High magnesium dolomite	Low	--	

Notes: *Acreage was not calculated for areas with low potential.
^a/These minerals are listed on the National Defense Stockpile Inventory of Strategic and Critical Minerals.

1. Energy Minerals

Over half of the WSA, approximately 12,338 acres, is within the Florida Mountains Raptor Nesting Area (total acreage 13,906 acres). This area is covered by a special stipulation for energy minerals leasing

FLORIDA MOUNTAINS WSA (NM-030-034)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

Legend

— WSA BOUNDARY

Land Status

-  BLM
-  PRIVATE
-  STATE

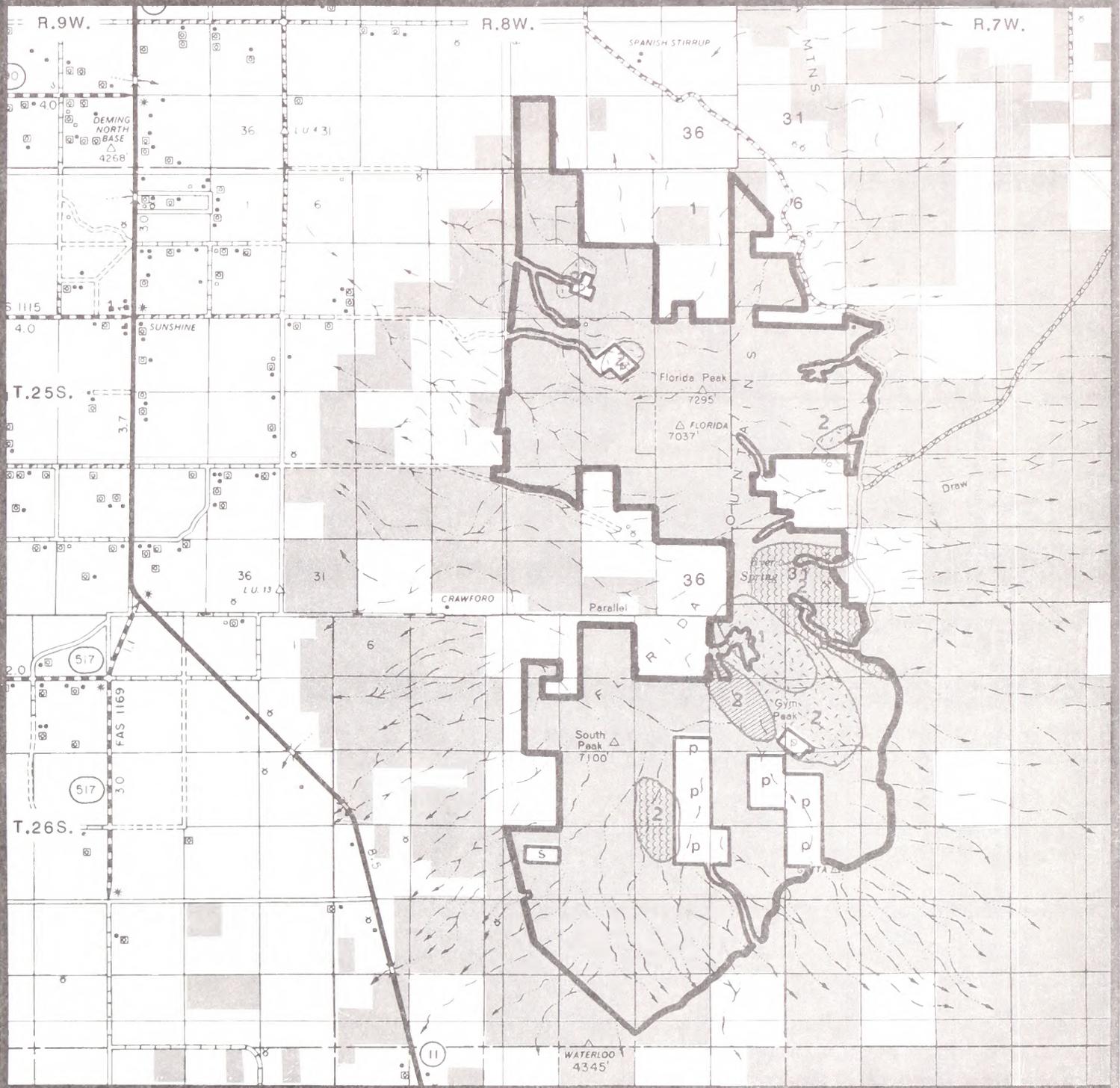
Scale: 1/2 inch = 1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.

MAP 35-2 MINERAL RESOURCE POTENTIAL

-  Base and Precious Metals
-  Manganese
-  Fluorspar

* Areas of high (1) and moderate (2) mineral potential are shown for lands within the WSA; the potential may extend outside the WSA boundary. Areas of low potential are not shown.



FLORIDA MOUNTAINS WSA (NM-030-034)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

MAP 35-3

MINING CLAIMS AND MINERAL LEASES

Legend

— WSA BOUNDARY

Land Status

■ BLM

□ PRIVATE

□ STATE

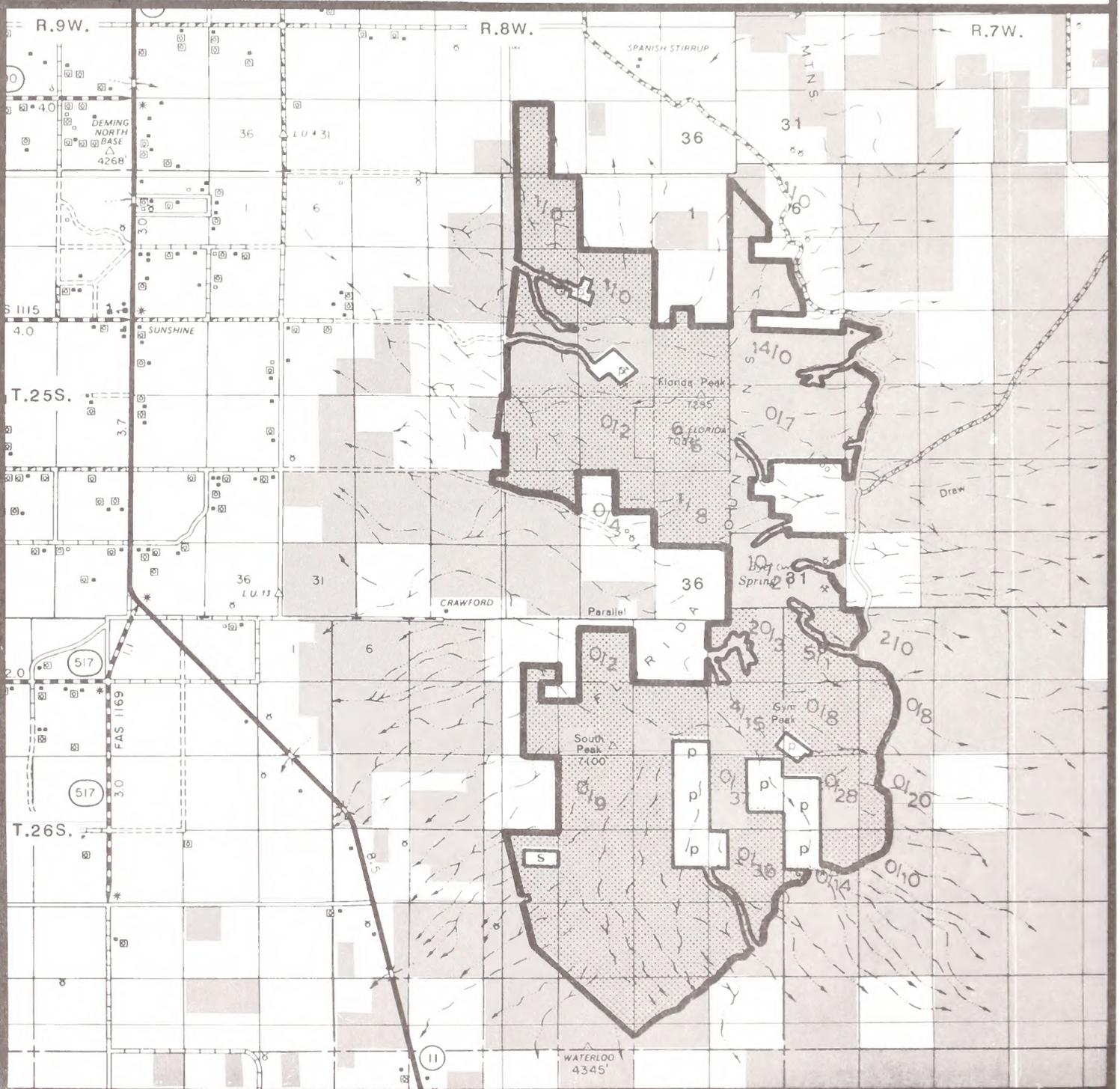
- 1/0 Pre- FLPMA Mining Claims Per Section
- Post- FLPMA Mining Claims Per Section
- ▨ Post- FLPMA Oil and Gas Lease

FLPMA was passed October 21, 1976.

(Claim information from BLM records dated April 15, 1986; claims which overlap more than one section are counted in each section in which they occur.)

Scale: 1/2 Inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



(BLM Las Cruces/Lordsburg MFP Amendment/EIS 1983). Surface disturbing activities would be allowed only during August 1 through January 31 on energy minerals leases within this area. As of April 15, 1986, there were 51 oil and gas leases within the WSA, all of which became effective after the enactment of the Federal Land Policy and Management Act (FLPMA).

a. Uranium

Uranium and thorium minerals are disseminated throughout the Precambrian plutonic rocks in the Florida Mountains in relatively weak concentrations. No prospects or deposits containing these commodities are present in the WSA, and the potential for their discovery is low.

b. Oil and Gas

The Florida Mountains area was a structural high during the late Paleozoic era when thick deposits of Permian sediments were being deposited in the Pedregosa Basin. Because the sedimentary layer in the Florida Mountains is relatively thin, and because numerous disruptive faults are present, the potential for oil and gas resources in the WSA is low.

2. Nonenergy Minerals

Approximately 263 mining claims are present within the boundary of the Florida Mountains WSA. Sixty-two of these claims were located prior to the enactment of the FLPMA (October 21, 1976), while the remaining 201 claims were located after this date.

a. Base and Precious Metals (Lead, Zinc, Copper, Gold, Silver, Molybdenum)

Base and precious metals, including lead, zinc, copper, gold, and silver, have been mined intermittently in the Florida Mountains since 1880. Mines that have produced in the past are the Silver Cave mine (2 patented claims in T. 25 S., R. 7 W., Section 7), the Mahoney mine (T. 26 S., R. 8 W., Section 1), the San Antonio mine (T. 25 S., R. 8 W., Section 10), the Stenson and Copper Queen mines (T. 25 S., R. 8 W., Section 14), and the Bradley mine (T. 25 S., R. 7 W., Section 18).

The metallic deposits in the Florida Mountains typically occur in fault-controlled veins and fractures within dolomite, although the Bradley mine is in Tertiary agglomerate and the Stenson mine is in Precambrian intrusive rock (Griswold 1974). The Mahoney Mine is probably the most promising of the known deposits based on the mineralization exposed in the area. This deposit consists of vertical veins bearing lead-zinc-copper mineralization that cut through the Fusselman dolomite (Griswold 1974).

Although the potential for small deposits of metallic minerals is high due to the presence of known deposits of this kind, there is less potential for the discovery of large, economically exploitable deposits of metallic resources. Therefore, the potential for metallic

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mineral resources is high in the vicinity of the Mahoney mine and low to moderate throughout the rest of the WSA.

b. Fluorspar

Fluorspar mineralization is evident in the Florida Mountains WSA in several areas. The Anniversary prospect (T. 26 S., R. 8 W., Section 1) is a fluorspar replacement deposit associated with a fault-breccia zone in limestone (Clemons 1983). Fluorspar occurs in association with manganese at the Priser mine (T. 26 S., R. 8 W., Section 12). Mineralization here is along a fault zone in Precambrian granite. Minor amounts of fluorspar occur in association with metallic mineralization at the Mahoney mines. Fluorspar potential in the WSA is moderate in the vicinity of the Anniversary prospect and Copper Kettle mine, but low throughout the rest of the area, partly because of the high transportation costs to market and abundance of material in other locations.

Underground exploration by adit development for metallics and fluorspar is occurring on the group of pre-FLPMA unpatented mining claims in T. 26 S., R. 8 W., Section 1, SE $\frac{1}{4}$ (the Copper Ridge and Anniversary claims). The current mining activities were determined to be grandfathered activities because (a) they are the same types of activities as those occurring on this group of claims on October 21, 1976, (b) they will result in the same kinds of physical and aesthetic impacts, and (c) they represent a geographic extension of previous activities on this group of claims.

c. Manganese

Production of manganese ore from the Florida Mountains began in 1942 and continued intermittently until 1958. The two major manganese deposits are the Birchfield mine (T. 25 S., R. 7 W., Section 31) and T. 26 S., R. 7 W., Sections 5 and 6) and the Southside mine (T. 26 S., R. 7 W., Section 19 and T. 26 S., R. 8 W., Sections 16 and 21-24). At the Birchfield mine, ore occurs as replacement deposits within Paleozoic limestone. The deposits are irregular and appear to decrease in grade with depth. The Southside deposits occur along fault zones and, as in the Birchfield area, the ore grade appears to decrease with depth (Farnham 1961). Potential for manganese resources is moderate in the southeastern portions of the WSA and low throughout the rest of the area.

d. Barite

Barite of America, Inc., opened an exploratory drift adit for barite near the old Atir mine (T. 25 S., R. 8 W., Section 24) during 1979-1980, but encountered only small stringers of barite. The potential for barite resources within the WSA is low.

e. Magnesium

High-magnesium dolomite occurs in lower Paleozoic sediments along the western portion of the Florida Mountains in the vicinity of Capitol Dome and Mahoney Park. According to Kottlowski (1957), there are

more than a billion tons of dolomite with an average magnesium oxide content of 21.7 percent and insoluble residue content of 0.6 percent in the Mahoney Park area just west of the WSA. Potential in the WSA, however, is low, partly because the best high-magnesium dolomite is outside of the WSA boundaries and partly because of the abundance of more readily available magnesium oxide reserves in other parts of the country.

B. Watershed

Water use within the Florida Mountains WSA is primarily by livestock and wildlife. There is one well facility, two wildlife guzzlers, two umbrella catchments, and six spring developments within the WSA. In addition, there are two undeveloped springs in the WSA. (See Chapter III, Livestock Grazing and Wildlife.) There are no water control structures or land treatments within the WSA.

Erosion hazard ranges from severe on the steep, rocky type soils that have rapid runoff to moderate on the alluvial fans. There are no watershed projects proposed in BLM's land use planning system for this area.

C. Livestock Grazing

1. Allotments

Parts of six grazing allotments are within the Florida Mountains WSA. Livestock use in parts of the Florida Mountains is limited due to steep slopes. Licensed grazing use on public land includes cattle and a few horses.

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
Nathan Crawford 2007	5,532	444	960	75	17%
Neal Crawford (Baker) 2008	5,277	516	418	41	8%
Gerald Greeman 2025	8,142	1,983	6,174	1,507	76%
Leo Koenig 2033	24,857	2,436	5,612	560	23%
May, Inc. 2035-2539	9,255	1,752	5,580	105	6%
Delia Perez 2041	7,416	552	3,592	265	48%
TOTAL			22,336	2,553	

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2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Type of Development	Location
Nathan Crawford 2007	rock and concrete storage tank and trough	T. 26 S., R. 8 W., Sec. 9
Gerald Greeman 2025	2 improved springs, trough abandoned well, storage tank and trough	T. 25 S., R. 7 W., Sec. 31 T. 25 S., R. 7 W., Sec. 18
	3 dirt tanks interior fence	T. 25 S., R. 7 W., Sec. 20 4 $\frac{1}{2}$ miles
Leo Koenig 2033	dirt tank, well with storage tanks and trough improved spring, storage tank, trough, tub, and corral	T. 26 S., R. 7 W., Sec 20 T. 26 S., R. 8 W., Sec. 12
	interior fence	1 miles
May, Inc. 2035-2539	3 improved springs 2 improved springs interior fence	T. 25 S., R. 8 W., Sec. 14 T. 25 S., R. 8 W., Sec. 23 3 miles

Boundary Fences:

Crawford 2007 and Perez 2041	$\frac{1}{2}$ mile
Koenig 2033 and May 2035	2 miles
Greeman 2025 and Koenig 2033	$\frac{1}{2}$ mile
Greeman 2025 and May 2035	$\frac{1}{2}$ mile
Crawford 2008 and Koenig 2033	$\frac{1}{2}$ mile
Perez 2041 and Koenig 2033	3 $\frac{1}{2}$ miles
May 2035 and Crawford 2008	1 mile

Note: ^{a/}Information shown in tables reflects Federal acres and animal unit months (AUMs), and rangeland developments on public land.

3. Potential Rangeland Developments

A pipeline and trough off of the existing well in T. 26 S., R. 7 W., Section 20, is proposed on the Leo Koenig allotment (2033) (BLM Las Cruces/Lordsburg MFP Amendment/EIS, 1983). Only about 1,000 feet of the proposed pipeline would be within the WSA since the well is just inside the southeast boundary of the WSA. The proposed pipeline would run due south from the well and the proposed trough would be located several miles outside the WSA boundary.

The location of this proposed rangeland development is tentative. The purpose of the pipeline and trough is not to accommodate increased livestock numbers, but to redistribute existing grazing use over the southern pasture of the Leo Koenig allotment (2033) and relieve grazing pressure around existing livestock waters.

D. Recreation

The Florida Mountains provide opportunities for hiking, climbing, and nature study. Hunting for quail, dove, and deer occurs in the area. Three limited permit Persian ibex hunts, trophy and nontrophy, are held in the Florida Mountains annually. Vehicle related recreation use occurs on the WSA boundary roads and the roads cherry-stemmed into the WSA.

The area is also visited by rockhounds. Rockhound State Park is 2 miles north of the WSA's northern boundary. In addition, Spring Canyon State Park (560 acres in T. 25 S., R. 8 W., Section 12) is adjacent to the north boundary of the WSA. Access into the Park was recently upgraded and plans for the Spring Canyon facility include more picnic tables, shelters, and the installation of electricity.

Visitor use information for the Florida Mountains WSA is unavailable.

The only BLM plan outlining specific management direction for recreation in the Florida Mountains is the Wildlife Habitat Management Plan (HMP). The HMP specifies that high intensity recreation sites should not be developed until after 1987. This recommendation is based on the opinion that high intensity use could be expected to increase ibex movements off the Florida Mountains into other habitats. After 1987, information will be available on ibex concentration areas and the potential for developed sites can be reevaluated.

E. Education/Research

A number of graduate students (Woodroof 1979; Sutcliffe 1972; Bavin 1975) from New Mexico State University and Colorado State University have conducted studies on the Persian ibex in the Florida Mountains. The area was included in the New Mexico Department of Game and Fish survey for peregrine falcon eyries in 1980.

Bill Isaacs, David C. Johnson, and J. S. Findley have conducted various plant surveys in the Florida Mountains. Corbitt and Woodward (1970) studied the thrust faults of the Florida Mountains and their regional tectonic significance.

F. Realty Actions

The New Mexico State Highway Department has a right-of-way (ROW) (NM-055609) for a material pit adjacent to the WSA boundary in T. 26 S., R. 8 W., Section 21, SE $\frac{1}{2}$ SW $\frac{1}{2}$, SW $\frac{1}{2}$ SE $\frac{1}{2}$. The Highway Department operates a gravel pit with a portable crushing and sizing system on the site.

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The Columbus Electric Cooperative transmission line ROW (NM-016066) forms approximately 9 miles of the northwest, northeast, and southwest boundaries of the WSA.

The Industrial Communications and Equipment Company was issued a ROW in February 1984 for a solar-powered radio repeater site and the existing cherry-stemmed access road in T. 26 S., R. 8 W., Section 1, SW $\frac{1}{4}$ NW $\frac{1}{4}$. The 25-year ROW was issued with the stipulation that the ROW would be revoked and all improvements removed if the Florida Mountains were designated wilderness.

G. Wildlife

A HMP was completed for the Florida Mountains in 1979. The HMP is a joint plan between BLM and the New Mexico Department of Game and Fish (NMDGF). The objectives of the plan which apply to the WSA are:

1. to maintain or improve the condition of key forage species;
2. to protect vegetation and soil resources;
3. to improve distribution of reliable water sources for big game in the higher elevations;
4. by hunting and other control methods, to limit the ibex population to levels determined to be within the safe and proper carrying capacity of the habitat;
5. to continue additional studies of the ibex including annual census, population ecology, and distribution.

There are two quail guzzlers in the northwest part of the WSA in T. 25 S., R. 8 W., Section 3, SE $\frac{1}{4}$ and Section 23, SW $\frac{1}{4}$. Two umbrella catchments have been installed at high elevations in T. 25 S., R. 8 W., Section 24, SE $\frac{1}{4}$, and T. 26 S., R. 8 W., Section 10, NE $\frac{1}{4}$. These catchments complete planned water development for the ibex.

The fire section of the HMP specifies that wildfires should be allowed to burn above the 6,200 foot level. This recommendation was not carried forward in a fire plan. However, the Las Cruces District portion of the Statewide fire plan is currently in preparation. The original recommendation from the HMP or a let-burn recommendation for the entire range will be carried forward in the Statewide fire plan.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The apparent naturalness of the Florida Mountains WSA is affected by a variety of the imprints of man: wildlife waters, rangeland developments, vehicle ways and cherry-stemmed roads, and mining activity.

The two wildlife waters in the northwest part of the WSA are the guzzler type. They have a minimal impact on naturalness. The vehicle trails accessing the waters have a slightly greater impact on naturalness than the wildlife waters. There are two umbrella catchments, made of galvanized metal, within the WSA. They are located at high elevations north of Baldy Peak and north of South Peak. Access to these waters is on foot, by horseback, or by helicopter. They also have a minimal impact on naturalness.

Rangeland developments affecting the naturalness of the area include improved springs, fences, dirt tanks, storage tanks, drinking troughs, and cherry-stemmed well facilities. The 8 improved springs, 4 dirt tanks, and approximately 17 miles of fence in the WSA do not greatly impact naturalness. White Dome Well, Blue Water Well, and Victorio Well are all cherry-stemmed developments along the east side of the Florida Mountains. The facilities at these wells include windmills, storage tanks, drinking troughs, corrals, and loading chutes. The Victorio Well is outfitted with a gasoline powered pumpjack. These developments and the associated access roads, although cherry-stemmed, impact naturalness locally, especially in the areas northeast, east, and southeast of Baldy Peak. A windmill, storage tank, and corrals are located about $\frac{1}{2}$ mile inside the WSA boundary in T. 26 S., R. 7 W., Section 20, NE $\frac{1}{4}$ NW $\frac{1}{4}$. These developments do not greatly affect apparent naturalness.

Mining activity and the associated access have had the greatest impacts on the naturalness of the Florida Mountains WSA, especially in the northeast and east-central portions of the WSA. The Stub mine and Birchfield-Bradley mines are located in the northeast part of the WSA. The Stub mine consists of two shafts and is accessed by a $1\frac{1}{2}$ -mile-long jeep trail. The Birchfield-Bradley mine area and access road are cherry-stemmed. Two buildings, several junked vehicles, mine structures, two mine shafts, and prospect trenches, although within the cherry-stem, impact naturalness in this area.

Approximately 1 mile southwest of the Birchfield-Bradley mines are the Atir and Barite of America (BOA) mines. Several mine shafts, prospects, and the remains of old mine buildings are located in and around Lobo Draw. The access route up Lobo Draw is cherry-stemmed. The post-FLPMA BOA mine access road has the greatest impact on naturalness in this area; however, less than a mile (0.18 mile) of the road is on Federal land within

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the WSA. This portion of the road on Federal land was originally covered by a right-of-way (ROW) but the ROW was revoked due to nonpayment of rental fees. Since BOA filed bankruptcy in 1984, the mine site was never reclaimed. BLM is currently developing a plan to reclaim the site.

Mining impacts affect the quality of the apparent naturalness in the 3 square mile area north of Gym Peak. Several prospects and a mine shaft are located less than $\frac{1}{2}$ mile north of Byer Spring in T. 25 S., R. 7 W., Section 31. The Birchfield manganese mines (San Tex mines) are located in T. 26 S., R. 7 W., Section 6, NE $\frac{1}{4}$ and T. 25 S., R. 7 W., Section 31, SW $\frac{1}{4}$. The imprints of man in this area include approximately 20 prospects and open cuts, tailings piles, 2 inclined shafts, the remains of a headframe, and vehicle trails. The Mahoney mines in T. 26 S., R. 8 W., Section 1 are accessed by a cherry-stemmed road climbing the west side of the Florida Mountains from Mahoney Park. Although cherry-stemmed, tunnels, dumps, several vertical shafts, the remnants of loading facilities, and a stone cabin used by the miner impact the quality of naturalness in this area. Grandfathered mining activities are currently proceeding on the group of claims in this area (the Anniversary and Copper Ridge claims). About 600 feet of an existing vehicle trail was improved by clearing brush and light blasting, and an exploration adit is being driven. These activities impact the naturalness of the ridge running south from Baldy Peak and the upper reaches of Copper Kettle Canyon. The dump resulting from the new adit will be visible from parts of Victorio Canyon and Gym Peak.

Approximately 1 mile south of the Mahoney mines in Copper Kettle Canyon is the Priser mine. Imprints of man around this mine include an old cabin, a steel storage tank, two adits, and five prospects. The Silver Cave patented mine is approximately $\frac{1}{2}$ mile southeast of the Priser mine. In addition to the mine shaft located on the patented inholding, there are about 10 prospects on the unpatented claims in the area. The surface disturbance associated with these old mines affects the apparent naturalness of the lower southern slopes of Gym Peak and Middle Copper Kettle Canyon.

The southwest and southern parts of the WSA are the most natural. An area of approximately 3,000 acres in the rugged, mountainous southwest part of the WSA around South Peak is natural except for an umbrella catchment to the north-northwest of the Peak. Imprints affecting the alluvial fans and creosote flats $1\frac{1}{2}$ miles south of South Peak include: $3\frac{1}{2}$ miles of jeep trails, 4 miles of fence, the New Mexico State Highway Department's gravel pit (T. 26 S., R. 8 W., Section 21, SE $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$ which is adjacent to the WSA boundary), and the Columbus Electric Cooperative's transmission line, which forms the northwest, northeast, and southwest WSA boundaries.

The apparent naturalness of the northwest part of the WSA is impacted by three cherry-stemmed roads, two jeep trails, and evidence of past mining activity. Many of the mining impacts in this part of the WSA are on the cherry-stemmed Copper Queen and Capitol Dome patented mines. Mining imprints on the unpatented claims adjacent to Capitol Dome include six shafts, three adits, and several prospect pits.

Overall, the Florida Mountains WSA generally appears natural. The quality of naturalness in parts of the WSA, however, are diminished by the cumulative impacts of mining activity.



Overview of the Florida Mountains.

b. Solitude

Portions of the Florida Mountains WSA provide outstanding opportunities for solitude. The relatively large size of the WSA allows visitors to disperse and avoid the sights and sounds of others, and the rugged topography provides numerous secluded canyons and ridges. The highest quality opportunities for solitude are in the area around South Peak and in the north-central part of the WSA along the spine of the mountain. These areas are away from roads and other imprints of man.

The quality of opportunities for solitude along the east slopes of the Florida Mountains is somewhat diminished by cherry-stemmed roads to rangeland developments and past mining activity.

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The Florida Mountains lie in the approach and departure flight path for El Paso International Airport. As a result, numerous aircraft, as many as 15 to 20 per hour during peak traffic, fly over the area. The noise from this aircraft can impact solitude in the WSA, however, this impact is not significant.

Opportunities for solitude are less than outstanding in the creosote flats in the southern part of the WSA and in the area southwest of the Copper Queen patented mine due to the lack of topographic and vegetative screening.

c. Primitive and Unconfined Recreation

The Florida Mountains WSA offers a variety of outstanding primitive recreational opportunities. The area is large enough to support a three or four day pack trip. Opportunities also exist for rock climbing, horseback riding, nature study, photography, and hunting.

The rugged mountain range, with its steep ridges and canyons, offers an excellent opportunity to use outdoor skills and to interact with a natural environment. Opportunities for primitive recreation are enhanced by the size of the WSA and the diversity of vegetation and topography found in the WSA.

The State and private lands adjacent to the central part of the WSA in and around Mahoney Park and Baldy Peak and in Box Canyon and Copper Kettle Canyon detract from the quality of opportunities for primitive recreation in the WSA. These non-Federal lands disrupt the topographic integrity of the area and limit destination points for visitors.

2. Special Features

The Florida Mountains WSA contains special ecological and scenic features.

The plant species in the WSA are numerous and diverse. The WSA provides habitat for a plant species listed as endangered by the State of New Mexico (see Chapter II, Vegetation). The Florida Mountains have outstanding scenic features with a Class A (high) scenic quality rating (see Chapter II, Visual).

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the area as being in the Chihuahuan Desert Province with a potential natural vegetation of grama-tobosa shrubsteppe.

The general nature of the Bailey-Kuchler System fails to show the vegetation variety and diversity of the WSA. Further refinement of the system shows the following vegetation types in the WSA:

<u>Vegetation Type</u>	<u>Acres</u>
grama-tobosa shrubsteppe	20,731
mesquite acacia savanna	1,289
Trans-Pecos shrub savanna	316

b. Distance From Population Centers

The Florida Mountains WSA is approximately 2½ hours driving time from El Paso, Texas; 1½ hours from Las Cruces, New Mexico; 5½ hours from Albuquerque, New Mexico; 4½ hours from Tucson, Arizona; and 6½ hours from Phoenix, Arizona.

B. Manageability

Several factors affect the potential of the Florida Mountains WSA to be managed as wilderness: patented mines, existing mining claims, and land status.

Strategic and critical minerals are known to occur in the Florida Mountains and there has been production from mines in the area in the past. Future mineral activities in the Florida Mountains are both possible and unpredictable. The Copper Queen and Capitol Dome patented mines are cherry-stemmed out of the northwest part of the WSA, and the Silver Cave patented mine is an inholding of approximately 30 acres in the southeast part of the WSA. These mines are all in areas of moderate potential for metallic minerals. Mining activities at the patented mines could degrade wilderness values in the northwest or southeast parts of the WSA. Upgrading the existing jeep trail in T. 26 S., R. 7 W., Sections 7, 8, and 18, to provide better access to the Silver Cave mine inholding would also degrade wilderness values.

There are numerous mining claims within the Florida Mountains WSA. These claims affect the manageability of the WSA in two ways:

1. The FLPMA specifies that mining uses that existed on the date of approval of the Act (October 21, 1976) may continue in the same manner and degree during the time that an area is under wilderness review. Such mining uses are grandfathered and may continue even if the uses would impair wilderness suitability.

Mining activities are currently proceeding in the same manner and degree under the grandfather clause on the Anniversary and Copper Ridge groups of claims in the Mahoney mines area. These claims in T. 26 S., R. 8 W. cover most of Section 1 and parts of Section 12.

In addition, mining claimants may be recognized as having a valid existing right if a valid discovery had been made on the claim before the passage of FLPMA on October 21, 1976, and the claimant can show BLM that the claim continues to be supported by such a discovery. Valid existing rights convey a more liberal development standard than grandfathered rights in that activities on valid claims are not limited to the same manner and degree. When it is determined that the valid existing rights can be exercised only through activities that will impair wilderness suitability, the activities will be regulated only to prevent unnecessary and undue degradation.

If any of the pre-FLPMA claims in the Florida Mountains WSA which meet the above criteria for grandfathered activities or valid existing rights are developed, wilderness values could be degraded before the area is designated wilderness.

2. Once an area is designated wilderness, the provisions of the Wilderness Act of 1964 and the Wilderness Management Policy (WMP) (BLM 1981) apply. Under the Wilderness Act and the WMP, holders of mining claims validly established in an area prior to its designation as wilderness may develop their claims in accordance with the 43 CFR 3809 regulations, "Surface Management of Public Lands Under U.S. Mining Laws." Although exercise of the valid existing rights of mining claimants must be with the least possible impact on the wilderness resource and claimants will be required to prevent unnecessary or undue degradation of the land, mining operations may impair wilderness values if there are no reasonable alternatives. In this case, all wilderness values could continue to be degraded near mining operations after the area is designated wilderness.

It is estimated that approximately 10 of the 263 mining claims in the WSA would prove to be valid and that a low level of development would occur on these claims. As a result, wilderness values in the vicinity of the claims would be degraded.

The land status in the Florida Mountains also affects the manageability of the area as wilderness. The land status in this mountain range is a mosaic of State, private, and public lands. As a result, the WSA boundary is very convoluted. For example, fairly large parcels of private land are cherry-stemmed in Copper Kettle and Box Canyons in the south and southeast parts of the WSA. The subsurface mineral estate on these particular parcels is in Federal ownership. Split-estate parcels of this kind are also located adjacent to the WSA boundary in and around Windmill Canyon and Lobo Draw (T. 25 S., R. 7 W., Sections 18 and 30, respectively) and Lovers' Leap Canyon and Mahoney Park (T. 25 S., R. 8 W., Sections 12 and 26, respectively). These split-estate parcels represent manageability problems because of the parcels' proximity to areas with moderate mineral potential. The Federal Government has no regulatory authority for surface management of mining activities on private surface/Federal subsurface lands. Restrictions on surface disturbance and plans for reclamation would be totally dependent upon agreements reached between the private surface

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 22,336 acres of public land within the Florida Mountains WSA would be recommended suitable for wilderness designation. (See Map 35-1 for location of the WSA boundary.)

If designated wilderness, the existing uses and activities in the area and potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the Wilderness Management Policy (WMP) (BLM 1981).

1. Impacts on Wilderness Values

Under the All Wilderness Alternative, the WSA's rugged topographic features and desert vegetation would be maintained. Natural reclamation of man-made intrusions in the WSA would occur slowly over the long-term. The outstanding opportunities for solitude provided in the rugged north central and South Peak areas of the WSA would be maintained. Solitude would continue to be occasionally disrupted by the numerous aircraft overflights of the area. Closure of the area to mineral exploration and development, except on valid mining claims, would enhance solitude opportunities in most of the WSA. The area's outstanding opportunities for hiking, backpacking, rock climbing, hunting, nature study, photography, sightseeing, and rock collecting would be maintained.

It is estimated that approximately 10 of the 263 mining claims in the WSA would prove to be valid. Development activities on valid mining claims in the WSA would result in degradation of wilderness values in localized areas. The area's natural appearance and scenic features would be degraded by access roads and mine dumps. Opportunities for solitude and primitive recreation would be degraded by the increased presence of man and vehicles and higher noise levels. It is estimated that approximately 50 acres would be disturbed and 5 miles of new road would be developed. The impacts on wilderness values would be greatest in the area north of Gym Peak where most of the areas of high and moderate potential for base and precious metals, fluorspar, and manganese have been identified. The outside sights and sounds of nonwilderness uses, such as mining activities on the non-Federal surface lands cherry-stemmed in the WSA and adjacent to the WSA, would degrade wilderness values similarly.

Conclusion. Under the All Wilderness Alternative, naturalness, opportunities for solitude and outstanding primitive recreation opportunities would be maintained in the long-term over most of the WSA. Mineral development on valid mining claims would adversely affect wilderness values, particularly naturalness, in about 15 percent of the WSA.

2. Impacts on Exploration and Development of Base and Precious Metals, Fluorspar, and Manganese

Metallic minerals, fluorspar, and manganese are known to occur in and around the Florida Mountains WSA, and several mines in the northeast and southeast parts of the Florida Mountains are patented. Portions of the

WSA have high (500 acres) and moderate (1,000 acres) potential for base and precious metals, moderate potential for fluorspar (400 acres), and moderate potential for manganese (1,300 acres), and there has been some production of these minerals in the past.

Under the All Wilderness Alternative, development work, extraction, and patenting of mining claims existing in the Florida Mountains WSA as of the date of designation would be allowed if the claims are determined to be valid. It is estimated that approximately 10 claims in the areas of high and moderate potential would prove to be valid and could be developed. At the present time, there are approximately 263 mining claims within the boundary of the WSA. However, additional operating costs would affect mining economics making marginal operations unprofitable.

Undue and unnecessary degradation of wilderness character would not be allowed, and the use of mechanical and motorized equipment would be authorized only if there are no reasonable alternatives. The mining companies could incur additional operating costs depending on restrictions on acceptable mining methods and the type and location of access.

No new exploration, prospecting, or location of additional mining claims would be allowed after wilderness designation. Full development of the mining district could not take place under this alternative. Most of the minerals known to occur in the area are on the list of strategic and critical minerals.

Conclusion. Outside of valid mining claims, exploration and development of 500 acres of high and 1,000 acres of moderate potential for base and precious metals and 400 acres and 1,300 acres of moderate potential for fluorspar and manganese, respectively would be precluded.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 7 head per section per year (2,553 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 17 miles of fence, 4 dirt tanks, storage tank, drinking trough, well with storage tank and trough, and 8 improved springs. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

The proposed pipeline and trough off of the existing well in T. 26 S., R. 7 W., Section 20 on the Leo Koenig allotment (2033) (BLM Las Cruces/Lordsburg MFP Amendment 1984) could be installed if it were

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determined through site-specific analysis to be necessary for the purpose of rangeland or wilderness protection. Road construction and motorized access along that portion of the pipeline within the designated wilderness (approximately 1,000 feet) would not be authorized. Since the proposed trough would be several miles away from the boundary of the designated wilderness, the existing forage utilization patterns within the wilderness area could be affected. The proposed trough would provide a source of water in addition to the existing well in Section 20 which would be inside the designated wilderness boundary. The additional water source could relieve grazing pressure around the existing well and more evenly distribute existing livestock grazing use.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness (Proposed Action)

Under the No Wilderness Alternative, the entire 22,336 acres of public land in the Florida Mountains WSA would be recommended nonsuitable for wilderness designation.

If the WSA is not designated wilderness, it would be managed according to the Las Cruces/Lordsburg MFP Amendment (BLM 1984). This plan prescribes livestock grazing, energy mineral leasing and wildlife habitat as the primary use of the area. The MFP amendment identifies one rangeland development, a pipeline and trough, to be constructed in the WSA. It is anticipated that in subsequent planning cycles, additional developments would be identified and constructed.

Although there are currently 51 oil and gas leases in the WSA and the area would continue to be open for energy mineral leasing, it is not likely that any surface disturbing exploration would occur due to the low oil and gas potential of the area.

The wildlife habitat on the Florida Mountains would be managed according to the Florida Mountains Habitat Management Plan (HMP). Planned actions in the HMP include development of water sources to improve big game distribution at higher elevations. All water developments have been completed. Other actions include an annual aerial census of the ibex population to determine population numbers and distribution, and vegetation studies to monitor forage use and to determine carrying capacity of the habitat. The HMP provides for hunting or other control methods to maintain the population within the carrying capacity of the habitat.

The Florida Mountains would continue to be open to mining claim location and mineral exploration and development. It is expected that a significant amount of mineral related activity would continue throughout the WSA and on adjacent Federal and non-Federal lands. Mineral exploration would be most active on the 2,300 acres of identified high and moderate potential in central and south-central portions of the WSA. Upgrading of

existing vehicle ways, the construction of new access routes, construction of drill pads, and drilling of test holes are anticipated. However, based upon historical use and current economic trends, large scale commercial production is not anticipated.

In the 22,336 acres not designated as wilderness, unavoidable adverse effects of the proposed action will result from future surface disturbance activities. Over the long-term, these activities will reduce the quality of wilderness values by adversely affecting naturalness, opportunities for solitude and primitive recreation and special wilderness features. Also, cumulative short-term consumptive uses of this land will lead to long-term degradation of wilderness values. Nondesignation of 22,336 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

The wilderness values in the Florida Mountains WSA would not be provided with long-term Congressional protection. Management of the area as proposed in existing BLM land use plans would be subject to administrative change in the long-term.

Anticipated mineral exploration and development would have an adverse impact on wilderness values in the WSA. Exploration for base and precious metals would result in 10 to 20 drill holes in areas of high potential and 5 to 10 holes in areas of moderate potential. Development could result in an additional 10 to 20 acres of surface disturbance. Exploration for fluorspar would result in 10 to 15 drill holes in areas of moderate potential. Development would result in an additional 10 to 20 acres of surface disturbance. Manganese exploration would result in 5 to 10 drill holes in areas of moderate potential. Low level development could result in an additional 5 to 15 acres of surface disturbance. It is expected that up to 200 acres would be disturbed as a result of exploration and development. An estimated 5 miles of vehicle ways would be upgraded to roads and an additional 3 miles of new roads would be constructed in connection with the mineral exploration and developments.

The surface disturbance on up to 200 acres, upgrading vehicle ways to roads, and the construction of 8 miles of new roads would degrade naturalness, particularly in the central portion of the WSA. Ongoing mining activities in these areas would cause loss of the outstanding opportunities for solitude. Unrestricted use on the existing ways, new roads, and cherry-stemmed roads in the WSA by recreationists, grazing permittees, and miners would destroy solitude opportunities in the vicinity of these ways and roads. Primitive recreation opportunities would also be degraded as a result of new roads, drilling operations, and increased access.

Mining activities would be regulated to prevent unnecessary and undue degradation and reclamation, where reasonably practicable, would be required. However, the surface disturbance of mining development and

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construction of required vehicular access would cause significant degradation of natural values, opportunities for solitude and primitive recreation, and the scenic quality on approximately 30 percent of the WSA. Construction of additional access would also partition the WSA into roadless areas less than 5,000 acres.

Conclusion. Under this alternative, wilderness values would be degraded and eventually lost on 30 percent of the WSA as a result of exploration and development of fluorspar, manganese, and base and precious metals.

2. Impacts on Exploration and Development of Base and Precious Metals, Fluorspar, and Manganese

Exploration and low level development are anticipated to occur on 500 acres of high potential and 1,000 acres of moderate potential for base and precious metals. Exploration and low level development are also anticipated on 400 acres of moderate potential for fluorspar and 1,000 acres of moderate potential for manganese.

Over the long-term, the WSA could be fully explored and prospected and additional mining claims could be located and developed. Such activities would be regulated under the Surface Management Regulations (43 CFR 3809) to prevent unnecessary and undue degradation to the land.

Conclusion. There would be no impacts on exploration and development of base and precious metals, fluorspar, and manganese.

3. Impacts on Livestock Grazing Use Levels

Livestock grazing use levels would continue at approximately 7 head per section per year (2,553 AUMs).

All rangeland developments could be checked and maintained using motorized equipment. The proposed pipeline and trough on the Leo Koenig allotment (2033) (BLM Las Cruces/Lordsburg MFP Amendment/EIS 1983) could be implemented without consideration of the constraints of the WMP.

Conclusion. There would be no impacts on livestock grazing operations or use levels under this alternative.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Since the beginning of the BLM wilderness review, the determination of wilderness characteristics in the Florida Mountains has been especially difficult and controversial.

After completion of the initial inventory, the BLM proposed in the April 1979 Wilderness Review New Mexico Situation Summaries that the Florida Mountains be dropped from further wilderness inventory. This recommendation was based on the rationale that, "The effects of numerous intrusions, abandoned and operating mines, roads in major areas, and utility lines result in a lack of naturalness in the area and a lack of outstanding opportunities... ."

During the public review of the Situation Summaries, many people disagreed with the BLM's original recommendation. More public comments were received on the Florida Mountains unit than any other unit in the Las Cruces District. The New Mexico Wilderness Review Initial Inventory Decision (BLM 1979) reflected the public sentiment: "Because of the comments received, a reasonable doubt exists that all or portions of the area may contain wilderness characteristics and the area will be intensively inventoried to confirm public comment."

Numerous roads were identified during the intensive inventory that divided the original inventory unit into smaller roadless areas. Four of these roadless areas are greater than 5,000 acres and were evaluated for their wilderness characteristics. The BLM judged that three of these roadless areas (identified as subunit NM-030-034B) lacked outstanding opportunities for solitude or primitive recreation and, therefore, did not meet the criteria for a WSA. However, one of these areas (subunit NM-030-034A in the central, mountainous portion of the unit) appeared to have at least minimum wilderness characteristics and BLM proposed in the New Mexico Wilderness Study Area Proposals (BLM 1980) that an area of 18,904 acres be designated as a WSA. Due to the subjectivity of this decision, heavy emphasis was given to public comments prior to the formulation of a final decision.

During the ensuing public review period on the WSA Proposals, numerous public comments were received and the Florida Mountains unit again proved to be one of the more controversial areas. Many of the comments included photographs, road affidavits, and newspaper clippings. Forty-three personal letters supported WSA status for the Florida Mountains. Most of the personal letters favoring wilderness study supported the Florida Mountains primarily because of the area's supplemental values and outstanding opportunities for solitude and primitive recreation. Thirty-nine personal letters opposed WSA status primarily because of mining and grazing impacts on naturalness.

After a reevaluation of the Florida Mountains' wilderness characteristics based on public comments, additional field checks, and all

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inventory information, BLM released the entire Florida Mountains unit from further wilderness review in the New Mexico Wilderness Study Area Decisions (BLM 1980). This decision was based on BLM's judgment that, "...the wilderness quality of the unit is negated by mining activity and grazing improvements. There are twenty-one known unpatented mining claims within the boundaries of the originally proposed WSA. Numerous prospect pits, tunnels, shafts, and mine dumps are associated with these claims. Range improvements within the originally proposed WSA or along its boundaries include windmills, troughs, pipelines, developed springs, corrals, fences, and dirt tanks. Additionally, the configuration of the area is very irregular due to a combination of corridor roads and land status." "...due to the cumulative effects of the impacts described above, the unit does not appear natural."

The BLM's decision to release the entire Florida Mountains unit (both subunits NM-030-034A and NM-030-034B) was subsequently protested by two parties. The State Director denied both protests and both parties appealed to the Interior Board of Land Appeals (IBLA). After reviewing the appeals, the IBLA ruled that "there is sufficient doubt as to the adequacy of BLM's assessment of the naturalness of subunit NM-030-034A and the record does not support BLM's conclusion, the BLM decision...must be set aside and the case remanded to BLM for reconsideration of the naturalness of that subunit. BLM's denial of (the) protest as to the remainder of the Florida Mountains unit is affirmed."

After reevaluation of the naturalness of subunit NM-030-034A as directed by the IBLA, BLM concluded that the area meets the minimum naturalness criterion for a WSA. The quality of the area's apparent naturalness is addressed in this report.

During the public comment period on the Las Cruces District Wilderness Supplemental Draft Environmental Assessment (BLM 1984), 36 personal letters were received indicating support for wilderness designation of the Florida Mountains WSA. Fifteen personal letters opposing wilderness designation were submitted.

Fourteen of the personal letters favoring wilderness designation for the area listed no supporting reasons. Most of the other letters favoring wilderness designation cited the area's basic wilderness characteristics as supporting reasons. Two comments specifically addressed BLM's evaluation of the quality of the WSA's naturalness. One commentator felt that the topography of the Florida Mountains mitigates the effects of rangeland developments and mining activity. Another commentator stated that because of the subjective nature of such an evaluation, the quality of an area's naturalness should not be used as a major rationale for dropping an area.

Several comments addressed BLM's evaluation of the Florida Mountains WSA's manageability and suggested additional alternatives. One comment stated that even though there may be problems associated with management of the area as wilderness, the law does not require that an area be easy to manage in order to qualify for wilderness. Other comments suggested (a) eliminating the Mahoney Park/Byer Spring area and dividing the area into two WSAs of 7,000 acres in the northern part of the mountain range

and 13,000 acres in the south or (b) including a partial wilderness alternative involving designation of the central core of the Florida Mountains as wilderness. Areas resulting from these alternatives would still have manageability problems due to mining claims, mineral potential, land status, and irregular boundary configuration.

Two comments addressed the need for an Area of Critical Environmental Concern (ACEC) in the Florida Mountains. One commentator felt that ACEC management should have been considered because of "(1) The nationally significant scenic quality" and "(2) An immediate need to stop barrel cactus theft." Another comment suggested designation of the southwest barrel cactus area as an ACEC.

Pro-wilderness comments on mineral resource conflicts generally reflected the attitudes that the Florida Mountains wilderness values outweigh mineral values and that the mineral potential was greatly exaggerated in the Draft Wilderness Analysis Report and EA.

Supporting reasons listed by those opposing wilderness designation of the Florida Mountains WSA generally reiterated BLM's rationale for recommending the area nonsuitable for wilderness designation.

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM, 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico Wilderness Coalition. Alternative W included the Florida Mountains and recommended wilderness designation for the entire WSA. Specific comments were directed to the Florida Mountains WSA by 130 commentators, with 123 supporting wilderness designation and 7 opposing.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Florida Mountains WSA by 65 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

Public Review of the Revised Draft EIS

No. 0100

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The BLM's rationale for not recommending the Florida Mountains WSA for wilderness designation is on the basis of 'marginal naturalness' and potential conflicts with mining interests. The BLM's own analyses show the potential for all mineral resources to be low, except for base and precious metals which is rated high to moderate. . . . There appears to be little real

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No. 0100 (continued)

potential for economic mineral development in the WSA. The fear of potential mineral development in the Florida Mountains certainly does not justify a no-wilderness recommendation for the WSA.

Although there are several range developments and the remains of mining activities within the WSA, the impacts are local and have a minimal impact on the overall naturalness of the area. Many of the more obvious intrusions have been cherry-stemmed out of the proposed wilderness. Others are amenable to rehabilitation and have been included. It is the Coalition's position that the size and rugged topography of the WSA mitigate the cumulative effects of the intrusions. . . .

The BLM identifies the post-FLPMA road to the Barite of America (BOA) Mine as the greatest impact on naturalness of the area . . . this violation of the Interim Management Policy is not a legitimate example of lack of naturalness for the Florida Mountains.

In summary, Florida Mountains WSA meets the required wilderness criteria, it is a high quality potential wilderness area, and potential resource conflicts when evaluated realistically are minimal. Inclusion of the State lands, especially those near the center of the WSA, will further enhance the wilderness characteristics of the area."

Response: Potential mineral development is only one of several reasons for not recommending the Florida Mountains suitable for wilderness designation. It is expected that as many as 10 of the 263 mining claims in the WSA could prove to be valid. While these claims may not result in large scale economic mining, any development of the claims would result in degradation of wilderness values, particularly naturalness and opportunities for solitude.

Part of BLM's rationale for recommending the Florida Mountains WSA unsuitable for wilderness designation is the quality of the area's naturalness. As discussed in the Public Involvement Overview Section of the WAR, the BLM proposed to release this area from further wilderness review at the conclusion of the Initial Inventory in April 1979 and did so at the conclusion of the Intensive Inventory in November 1980. The Initial Inventory recommendation and Intensive Inventory decision were based on BLM's judgment that the area lacked apparent naturalness. After the Interior Board of Land Appeals reviewed appeals on BLM's November 1980 decision, BLM again reevaluated the Florida Mountains' naturalness. BLM subsequently designated the area a WSA after concluding that the area meets the minimum criterion of

No. 0100 (concluded)

being apparently natural. During the wilderness study, the quality of the WSA's apparent naturalness was considered. Overall, the Florida Mountains WSA appears natural, but portions of the WSA are cumulatively impacted by cherry-stemmed rangeland developments and roads, surface disturbance resulting from past mining activity, and other less major impacts such as fences, jeep trails, and improved springs. The quality of the Florida Mountains WSA's naturalness diminishes the overall value of the area for preservation as wilderness.

The WAR identified the post-FLPMA road to the Barite of America (BOA) Mine as the greatest impact on naturalness in the wide, open area in the center of Section 30, T. 25 S., R. 7 W. This has been clarified in the WAR. The presence of the BOA road and mine is mentioned to recognize its existence in the area. Its impact on naturalness is not viewed as a justification for the nonsuitability recommendation.

It is the BLM's position that the Florida Mountains WSA is nonsuitable for wilderness designation because of the mineral resource issues and marginal quality of the area's naturalness. The mineral resource issues include the potential for conflicts between wilderness management objectives and permissible mineral development activities on valid claims and the foregone opportunities to fully evaluate and develop mineral resources under a wilderness designation.

APPENDIX 36

GILA LOWER BOX WSA (NM-030-023)

I. GENERAL DESCRIPTION

A. Location

The Gila Lower Box Wilderness Study Area (WSA) is located 23 miles northwest of Lordsburg, New Mexico and 4 miles southeast of Virden, New Mexico.

The U.S. Geological Survey (USGS) topographic map covering the WSA is the Canador Peak, New Mexico quadrangle at the 15-minute scale.

B. Climate and Topography

The Gila Lower Box WSA is characterized by a semiarid, continental climate, with mild winters and pleasant to hot summers.

Average annual precipitation in the area is slightly greater than 12 inches. A wide variation in annual precipitation is characteristic of southern desert climates. More than half of the precipitation normally falls during July, August, and September from convective thundershowers that are commonly intense and of short duration. The winter precipitation is mainly from gentle-intensity frontal type storms that may produce some light snow; however, the snow seldom accumulates on the ground.

During the summer months, daytime temperatures may exceed 100°F. The average monthly maximum temperature during July, the warmest month, is in the middle 90's. In January, the coldest month, the average monthly minimum temperature is in the low 20's.

Winds generally predominate from the southeast in summer and from the northwest in winter, but local surface wind directions vary greatly because of local topography. Spring is the windy season. Dry, gusty winds are predominantly from the west-southwest and may exceed 30 mph in the afternoons.

The WSA contains a portion of the Gila River and the Lower Box Canyon. This portion of the river displays many characteristics of a youthful stream. The most prominent characteristics are the steep canyon walls, numerous short canyons extending themselves by head cutting and developing valley systems, a general lack of floodplain development, and canyon sides which rise abruptly from near the river's edge.

Structural benches and erosional columns, or hoodoos, occur in various places along the river. The southern portion of the WSA contains gently rolling hills and the drainages into the Gila River.

GILA LOWER BOX

C. Land Status

The WSA contains 8,555 acres of public land and 120 acres of private inholdings. (See Map 36-1 for land status within the WSA boundary.)

D. Access

Legal access to the WSA is available from the south by county roads to Fisherman's Point and Spring on the Bluff (see Map 36-1 for general locations of these areas). Further physical access is available by ranch and mine roads that run east from State Highway 82 and roughly parallel the WSA's northern boundary.



Aerial View of the Gila Lower Box WSA.

ALAMO HUECO MOUNTAINS WSA (NM-030-038)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

Legend

— WSA BOUNDARY

Land Status

BLM

PRIVATE

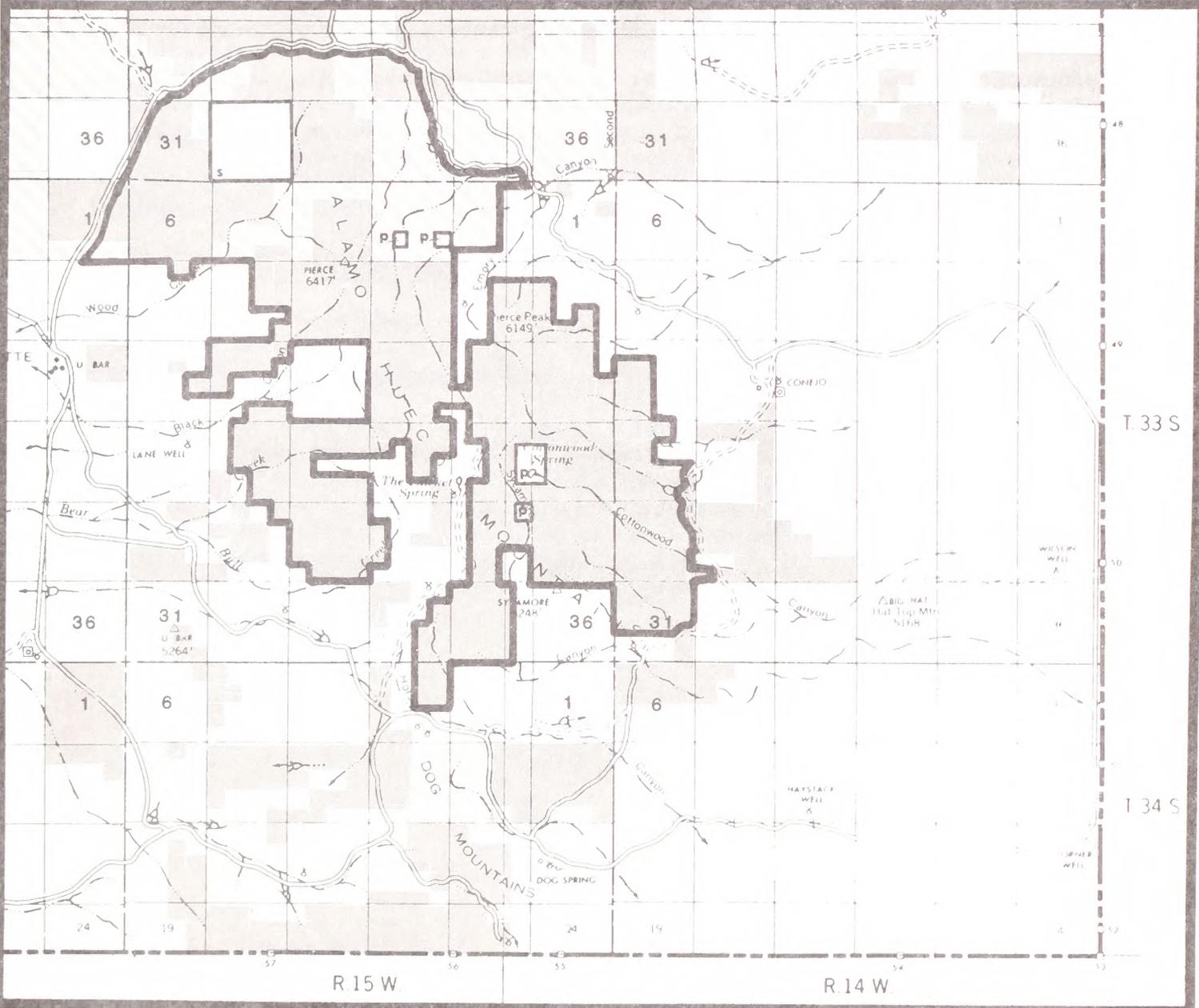
STATE

BLM SURFACE/NON BLM SUBSURFACE

Scale: 1/2 inch=1 mile

MAP 29-1 LAND STATUS

Source: USDI, BLM, Las Cruces District, April, 1986.



E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis, as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A detailed description of those actions associated with the proposal and alternatives is provided in Table 1. The Amended Boundary Alternative is the proposed action for the Gila Lower Box WSA. The area recommended suitable for wilderness designation contains 6,835 acres and consists of the Gila Lower Box Canyon, the south slopes of Canador Peak and the Rimrock, and part of the creosote covered river breaks to the south of the canyon. This entire area appears natural and offers outstanding opportunities for solitude. This area offers a wide variety of recreational opportunities and contains special ecological, geological, cultural, and scenic features. The area recommended nonsuitable for wilderness designation, 2,720 acres, is not a part of the river canyon or side canyons and does not contribute to the value of the area as wilderness.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Including this Alternative
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None for this WSA

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
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Impacts on Cultural Resources	Cultural resources were not selected for detailed analysis because of the low resource development potential where cultural sites are known to occur. A detailed site analysis would be required for any proposed surface disturbing activities.
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Alternatives Selected for Detailed Analysis	Reasons
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All Wilderness	8,555 acres were identified during the inventory as having wilderness values.
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Amended Boundary (Proposed Action)	This alternative was evaluated because it includes the area of highest quality wilderness and supplemental values and greatest manageability.
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No Wilderness	The No Action Alternative required by NEPA.
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Environmental Issues Selected for Detailed Analysis

Issues of concern were identified for the Gila Lower Box WSA include: impacts on the quality of the area's wilderness values; impacts on wildlife including threatened and endangered species; and impacts on livestock grazing use levels.

An additional issue identified in public comments on the Draft FA concerns wilderness designation versus management as an ACEC. This issue concerns the differences in methods and tools allowed to manage the area's riparian habitat and the resulting impacts to wildlife habitat, threatened or endangered wildlife species, water, soils, and vegetation under the two alternative designations. The implications of managing the area as a ACEC are discussed as part of the three issues analyzed in detail.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	Amended Boundary (Proposed Action)	No Wilderness
<p>MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 8,555 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Attempts would be made to acquire 320 acres of private land.</p> <p>-Close 1 1/2 miles of vehicle ways which currently receive low use (less than 100 vehicles per year). Access over these trails to private inholdings could be granted by permit.</p> <p>-Permits would be required for vehicular access to maintain 7 1/2 miles of fence, corrals, and a drinking trough. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.</p> <p>-8,555 acres with low potential for energy and nonenergy minerals would be closed to energy minerals leasing and mining claim location.</p> <p>-Current livestock grazing levels of approximately 11 head per section per year (1,393 AUMs) would continue.</p> <p>-Up to 7.5 miles of fences, and a water gap could be implemented if necessary for resource protection and consistent with wilderness management objectives for the area.</p> <p>-Desert bighorn sheep could be transplanted in the area.</p>	<p>MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 5,835 ACRES. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Attempts would be made to acquire 320 acres of private land.</p> <p>-Close 1 mile of vehicle ways which currently receive low use (less than 100 vehicles per year). Access over these trails to private inholdings could be granted by permit.</p> <p>-Permits would be required for vehicular access to maintain 7 1/2 mile of fence, corrals, and a drinking trough. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.</p> <p>-5,835 acres with low potential for energy and nonenergy minerals would be closed to energy minerals leasing and mining claim location.</p> <p>-Current livestock grazing levels of approximately 11 head per section per year (1,393 AUMs) would continue.</p> <p>-Up to 6 miles of fences, and a water gap could be implemented if necessary for resource protection and consistent with wilderness management objectives for the area.</p> <p>-Desert bighorn sheep could be transplanted in the area.</p> <p>MANAGE 2,720 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-No special attempts would be made to acquire non-Federal lands.</p> <p>-Vehicle use would be allowed to continue on 1/2 mile of vehicle ways. Vehicle use would be less than 100 vehicles per year.</p> <p>-90 acres with low potential for energy minerals would be open to leasing with a protective stipulation for threatened or endangered species habitat. No exploration or development is expected due to the low potential of the area.</p> <p>-2,630 acres with low potential for energy minerals would be open to leasing with no special stipulations. No exploration or development is expected due to the low potential of the area.</p> <p>-Current livestock grazing levels of approximately 11 head per section per year (1,393 AUMs) would continue.</p>	<p>MANAGE 2,469 ACRES AS THE GILA RIVER LOWER BOX RIPARIAN AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Attempts would be made to acquire 320 acres of private land.</p> <p>-Vehicle use would be restricted to designated roads. No roads exist in the ACEC.</p> <p>-Vehicular restrictions for maintenance of rangeland developments would not apply. Access for inspections and minor repairs would be allowed without restrictions and is estimated to be approximately one per month.</p> <p>-2,469 acres with low potential for energy minerals would be open to leasing with a No Surface Occupancy stipulation. Exploration and development is not expected due to the low mineral potential of the area.</p> <p>-2,469 acres with low mineral potential would be segregated from all forms of appropriation under the public land laws, including the mining and material sale laws.</p> <p>-Current livestock grazing levels of approximately 11 head per section per year (1,393 AUMs) would continue.</p> <p>-A dirt tank, up to 7.5 miles of fences, and a water gap could be implemented for livestock management.</p> <p>-Desert bighorn sheep could be transplanted in the area.</p> <p>MANAGE 6,086 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-No special attempts would be made to acquire non-Federal lands.</p> <p>-Vehicle use would be allowed to continue on 1 1/2 miles of vehicle ways. Vehicle use would be less than 100 vehicles per year.</p> <p>-1,890 acres with low potential for energy minerals would be open to leasing with a protective stipulation for threatened or endangered species habitat. No exploration or development is expected due to the low potential of the area.</p> <p>-162 acres with low potential for energy minerals would be open to leasing with a No Surface Occupancy stipulation. No exploration or development is expected due to the low potential of the area.</p> <p>-4,034 acres with low potential for energy minerals would be open to leasing with no special stipulations. No exploration or development is expected due to the low potential of the area.</p> <p>-Current livestock grazing levels of approximately 11 head per section per year (1,393 AUMs) would continue.</p> <p>-Pasture fences, a pipeline, and trough could be installed without wilderness constraints.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives Acreage	Major Environmental Issues	
	Impacts on Wildlife Habitat and Threatened or Endangered Species	Impacts On Wilderness Values
All Wilderness (8,555 acres)	Riparian habitat beneficial to raptors, Gila woodpecker and numerous songbirds would be maintained in a natural condition. Riparian and aquatic habitat would be improved by 30 percent.	Naturalness of the river canyon and uplands and opportunities for solitude, hiking, fishing, bird watching, float boating, and camping would be maintained.
Amended Boundary (5,835 acres recommended suitable, 2,720 acres recommended nonsuitable) (Proposed Action)	Same as All Wilderness.	Same as All Wilderness Alternative. Marginal quality of wilderness values would be degraded by 10 percent on 2,720 acres recommended nonsuitable.
No Wilderness (2,469 acres managed as an ACEC, 6,086 acres no special management)	Because of the low resource development potential, impacts to wildlife would be the same under each alternative.	Wilderness values and special features within the ACEC would be maintained in the short-term. In the long-term, naturalness, solitude, hiking, and camping opportunities would diminish in quality by 10 percent. In the portion of the WSA outside the ACEC boundaries, the installation of the proposed fences, dirt tank, pipeline, and trough would degrade wilderness values by 10 percent.

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The oldest rocks exposed in the Gila Lower Box WSA are early Tertiary andesites consisting of andesite flows, flow-breccias, and localized andesite tuffs. Rhyolitic and latitic tuffs of the Datil formation overlie the Tertiary andesites and are interbedded with some tuffaceous sandstones and conglomerates. The cliffs of the Gila Lower Box are formed from tuffs of the Datil formation and the older andesites. Younger basaltic andesites and volcanic conglomerates are exposed in the southeastern part of the WSA. Quaternary sediments include the Gila formation, pediment and terrace gravels, and stream terrace gravels.

Faulting and jointing patterns in this area are predominantly northwest-trending. Some east-northeast faulting is also apparent.

B. Water

The Gila Lower Box WSA is situated within the Gila River Basin which contributes to the larger Lower Colorado River Basin. The Gila River is a perennial stream with headwaters in the Gila National Forest to the northwest. Through the Gila Lower Box WSA, the river meanders generally westward with portions of the channel being narrow with steep side walls. Within the WSA, principal tributaries into the Gila River are ephemeral and include White Rock, Box, and Cottonwood Canyons. Average discharge of the Gila River through the Lower Box is around 134,000 acre-feet per year. Peak flows generally occur in mid-February and March from snowmelt in the upper reaches of the watershed. In February 1980, a peak discharge of 4,020 cubic feet per second (cfs) was measured just above the Lower Box, while the maximum discharge for 53 years of record was 58,700 cfs in 1978. Low daily flows between 20 and 40 cfs are common throughout the summer with occasional higher discharge following thundershowers.

Water quality standards for fecal coliform bacteria, dissolved oxygen, pH, and temperature have been established by the State of New Mexico for the main stem of the Gila River, from the New Mexico-Arizona border upstream to Redrock. The water, as measured at Redrock, meets the standards set forth by the State of New Mexico for designated uses of irrigation, limited warm water fisheries, livestock and wildlife watering, and secondary contact recreation. Several water quality parameters are above levels set for public drinking water by the State of New Mexico. Specifically, fluoride, iron, and arsenic have been measured at concentrations that exceed maximum contaminant levels.

Ground water is available in the alluvium and terrace gravels, and in the Gila Conglomerate, with lower yields expected in the volcanic rocks and interbedded bolson fill. Ground water movement is towards the Gila River and westward down the river valley. An ephemeral stream system contributes significantly to underground flow and recharge. Natural recharge occurs mainly as infiltration in the porous beds of streams and arroyos during periods of flood runoff. Water from alluvium and terrace

gravels generally contains less mineral substances than water in adjacent rock formations. Ground water quality in the area is within recommended limits for livestock and wildlife use, as established by the National Academy of Sciences (BLM 1980).

C. Soils

Four different landforms, each with a different soil type, are found in the Gila Lower Box WSA.

In the bottom of the Gila Valley, the soils were deposited by the river and consist of stratified sands, silts, clays, and gravels. Surface textures range from silty clay loam to very gravelly sandy loam.

On the steep upland breaks into the Gila River, the soils formed in stratified old valley fill and commonly have a surface texture of very gravelly sandy loam. These soils have a high erosion hazard and contribute sediment to the river during periods of intense rain, which are common in the summer months.

In the southern portion of the WSA, on upland areas, the soils are deep and formed from igneous parent materials. Surface textures range from very gravelly loams to gravelly clay loams.

On the hills to the north of the Gila River, the soils are rocky and shallow and formed primarily from rhyolitic and basaltic parent materials. These soils typically have a surface texture of stony loam and are interspersed between numerous areas of rock outcropping.

D. Vegetation

1. General

The vegetation and associated range sites within the Gila Lower Box WSA consist of seven major types:

Vegetation Type	Range Site	Federal Acres
Grass	Hills	2,138
Creosote	Breaks	3,167
Mixed desert shrub	Loamy	2,583
Deciduous trees	River bottomland	454
Creosote	Gravelly	80
Creosote	Sandy	48
Creosote	Malpais (lava flow)	85

Grass species consisting of grammas, tobosa, bush muhly, threeawns, foxtail, and dropseeds are the dominant vegetation on the hills on both sides of the Gila River. A few scattered juniper trees are present along with the shrub species creosote, mesquite, and snakeweed.

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Breaks, a highly erodable range site, occurs mainly along the south edge of the Gila River. Creosote is the dominant vegetation on the breaks. Other associated shrub species are snakeweed, mesquite, rabbitbrush, Mormon tea, yucca, mimosa, cacti, and a few scattered juniper trees. Grass species include bush muhly, black grama, tobosa, burro grass, fluffgrass, other gramas, and dropseeds.

Mixed desert shrubs are the dominant vegetation on the deeper loamy soils on the south side of the Gila River. Shrub vegetation is comprised of snakeweed, mesquite, cacti, yucca, mimosa, and creosote. Associated grass species are tobosa, threeawns, bush muhly, dropseeds, and black grama.

In contrast to the surrounding desert, the Gila River is the unique and dominant feature of this WSA because of important riparian vegetation. Vegetation, varied and diverse, is comprised of the deciduous cottonwoods, Arizona sycamores, Arizona walnuts, and willow trees. Grass species include bahia grass, Johnson grass, and Bermuda grass. Many different forbs and grasslikes occur in the bottomland. The river bottomland, though very productive, is in a very depleted state due to eroding soils and lack of vegetative cover.

Creosote is the dominant vegetation on gravelly, sandy, and malpais (lava rock) areas. Other associated shrub species are snakeweed, mesquite, yucca, and cacti. Grass species include tobosa, bush muhly, threeawns, gramas, cane bluestem, Arizona cottontop, and foxtail. Most of the grass species occur in the lava flow on the north side of the river.

2. Rare Plant Species

The following species was identified and located in or near the WSA (NMSHP and USFWS 1982; revised 1986).

Species: Cereus greggii - night blooming cereus

Status: Listed as endangered by the state of New Mexico, candidate for Federal listing.

Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

E. Wildlife

1. General

The Gila Lower Box WSA is extremely important for wildlife because it encompasses 587 acres of riparian habitat which supports the most diverse wildlife community of any habitat site. The upland portions of the area are creosote or snakeweed. Although these two sites do not support a rich fauna by themselves, the combination of the different sites is valuable. Those animals which normally use the upland areas have a source of water with the river close by. Some wildlife associated with the river

would use the upland areas for feeding. Raptors, in particular, nest and roost along the river, but hunt in the creosote and snakeweed sites where mammalian and reptilian prey densities are high (USDI, BLM 1979, 1981).

The Gila River is extremely valuable for wildlife because it extends through the Chihuahuan Desert into the Sonoran Desert in Arizona (and into Mexico via the Colorado River). To the north, it reaches the Mogollon Plateau. This makes the river a natural pathway for a great number of species. As a result, almost half the vertebrate species which occur in New Mexico can be found along the lower Gila River. Most of these species also are found in the WSA.

The Gila River Valley, including the WSA, is particularly well-known for its abundance and diversity of bird life. The breeding riparian avifauna of the Gila Valley is the richest of any in the lower Colorado drainage (Johnson, et al 1974) and probably of any in the Southwest. In addition, breeding densities of riparian birds appear to be comparable to those of the Verde Valley of Arizona, which are among the highest for any area in temperate North America. The Gila Valley also represents a highly significant breeding area for raptors (Johnson, et al op. cit.) and for peripheral species (Hubbard 1971).

In the lower Gila Valley, between Arizona and the Gila National Forest, 265 species of birds have been recorded. Of these, 144 were recorded in the summer. As many as 116 may breed there (Hubbard 1977). Most of these species can be found in the WSA. Of some interest is the fact that many birds reach a geographic limit at this section of the Gila River. Hubbard lists eight birds which are at their northern limits, five at their southern, and a number of others which are Sonoran or Mexican species.

Similar geographic distributions are exhibited with other wildlife. Sixty-seven mammal species can be found in or near the lower Gila Valley in New Mexico. About one-fourth of these are near their distributional limits; half of these are at their northern and half at their southern extensions. Twelve amphibians and 54 reptiles are found in or near this part of the river valley. About one-third of the amphibians and one-half the reptiles are at their distributional limits, and most of these are at their northern extensions. Again, most of these species can be found in the WSA (Hubbard 1977).

Some big game use the area. Mule deer numbers are low, but they are found in the WSA. Javelina populations are healthy. This species, too, is near its northern limits in the Gila River Valley.

2. Threatened or Endangered Fauna Species

The WSA has significant threatened or endangered species habitat. The peregrine falcon and the bald eagle, both Federally-endangered species, use the area but are not known to breed there.

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Eight State-endangered species are found in this part of the river valley. The gray hawk is associated with riparian habitats. It is quite rare in New Mexico. Black hawks are also tied closely to riparian habitat. Two species which nest in the WSA are the Gila woodpecker and Bell's vireo. Gila monsters and narrow-headed garter snakes, two reptile species, have been seen in the WSA. There are two fish species, the spikedace and the loachminnow, which live in the shallower waters that are found in many parts of the WSA. These two species are also candidates for Federal listing.

The zone-tailed hawk has been identified as a special concern element by the New Mexico State Heritage Program because it reaches the northern limits of its distribution peripherally in New Mexico. This hawk nests in the WSA.

F. Visual

The Gila Lower Box is composed of massive blocky outcrops which break into the steep walled canyon. The canyon is over 600 feet deep in places. In the eastern half of the canyon, the predominant colors are pinks and reds. The western half is composed of a much darker black/brown rock. Water in the river is usually slow moving and flat. Water color varies with the season, but is generally brown. Vegetation in the canyon is dense near the river. This vegetation includes all ages of trees, bushes, and numerous grass and cactus plants. Flowers can provide a striking visual contrast during the spring. The Gila Lower Box Canyon has a class A (high) scenic quality rating.

The land south of the canyon consists of rounded rolling hills with arroyos and canyons cutting toward the river. Vegetation is predominantly short bushes and isolated patches of grass and cacti. This part of the WSA has a Class B (moderate) scenic quality rating.

The WSA is in a Visual Resource Management (VRM) Class II.

G. Cultural

The Gila Lower Box WSA contains several large petroglyph panels in the Mogollon style. While not as large as other petroglyph sites, they do contain significant information regarding the art styles and beliefs of the individuals who made them. A number of small rock shelters and rock structures are present throughout the WSA. They contain evidence of occupation and at least one granary. Low rock walls and mortar holes are associated with the rock shelters. The rock structures are significant in that such remains are very rare in this portion of the Southwest.

Site density should be high in the north part of the WSA along the south facing slopes of the Rimrock. There is a high probability that any major cave or rock shelter has a site.

H. Air

Generally, the quality of air within the Gila Lower Box WSA is good. The air quality in the WSA does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The locations of mining claims in the WSA are shown on Map 36-2.

1. Energy Minerals (Geothermal Energy)

Two areas within the Gila Lower Box WSA are covered by special stipulations for energy minerals leasing (BLM Las Cruces/Lordsburg MFP Amendment 1984). (This document addressed energy minerals leasing, livestock grazing, and Areas of Critical Environmental Concern (ACECs).) The Gila River Lower Box Riparian ACEC is within the WSA. A No Surface Occupancy (NSO) stipulation would be attached to any energy minerals leases let within the ACEC. The boundary of the NSO area is drawn on legal subdivisions; therefore, the NSO area is slightly larger than the ACEC. The NSO area encompasses 2,631 acres. In addition, approximately 1,890 acres of the Gila River Riparian Areas are within the WSA and outside of the ACEC. Riparian areas along the Gila River are covered by a protective stipulation for threatened or endangered species habitat. There are no existing leases in the WSA.

Thermal springs once existed in the Lower Gila Box WSA area as evidenced by the presence of banded calcite and travertine deposits to the southeast of the WSA and within the eastern portion of the WSA; however, related volcanic activity does not appear to be recent enough to suggest the presence of geothermal resources. The potential for geothermal resources within the WSA is therefore low.

2. Nonenergy Minerals

There are currently 3 unpatented mining claims recorded within the WSA. These claims were located after the passage of the Federal Land Policy and Management Act on October 21, 1976, and are referred to as "post-FLPMA" claims. Several 10 foot deep prospect pits have been dug on two of these claims in T. 19 S., R. 20 W., Section 26.

As noted above, the Gila River Lower Box Riparian ACEC is located wholly within the WSA. The special management requirements for the ACEC include segregation from the mining and material sale laws, but this segregation is not yet in effect. Once implemented, this segregation would virtually eliminate any possibility of mineral exploration and development.

a. Manganese

Manganese has been produced at several mines near the Gila Lower Box WSA, including the Consolation mine, $\frac{1}{2}$ mile east of the WSA boundary (T. 19 S., R. 19 W., Section 20) and the Cliff Roy mine, $1\frac{1}{2}$ miles southeast of the WSA boundary (T. 19 S., R. 19 W., Section 33). Another mine, the Black Bob, about $\frac{1}{2}$ mile north of the WSA (T. 19 S., R. 20 W., Section 13) was developed but never produced. These deposits occur in

ALAMO HUECO MOUNTAINS WSA (NM-030-038)

PROPOSED ACTION - NO WILDERNESS ALTERNATIVE

MAP 29-2 MINING CLAIMS AND MINERAL LEASES

Legend

— WSA BOUNDARY

-  Pre- FLPMA Mining Claims Per Section
-  Post- FLPMA Mining Claims Per Section
-  Post- FLPMA Oil and Gas Lease

Land Status

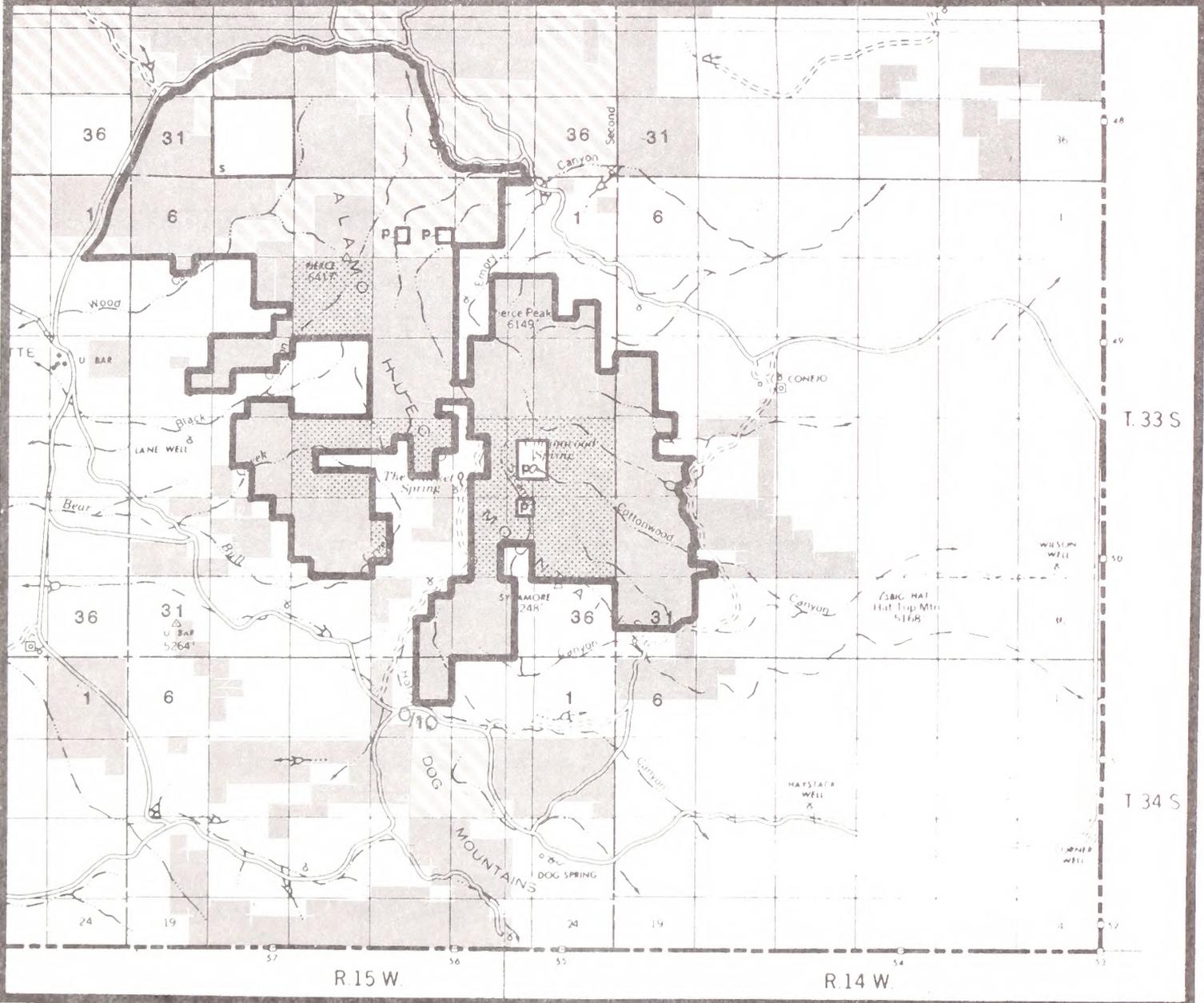
-  BLM
-  PRIVATE
-  STATE
-  BLM SURFACE/NON BLM SUBSURFACE

Scale: 1/2 Inch=1 mile

FLPMA was passed October 21, 1976.

(Claim information from BLM records dated April 15, 1986; claims which overlap more than one section are counted in each section in which they occur.)

Source: USDI, BLM, Las Cruces District, April, 1986.



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steeply dipping faults that trend northwest. The manganese is in shoots within volcanic agglomerate and was probably deposited by ascending hot-spring water (Farnham 1961). Deposits of banded travertine are associated with manganese at the Cliff Roy mine.

Although there are no reported occurrences of manganese within the WSA, banded calcite and travertine (onyx marble) are present, indicating that thermal springs once existed in the area. Several prospect pits have been dug on unpatented mining claims in the eastern part of the WSA where the banded calcite and travertine occur. The presence of travertine in this area as well as other geologic features including northwest trending faults may indicate that manganese deposits extend into the eastern portion of the WSA; however, it is unlikely that any manganese occurrences would prove to be of commercial value. Therefore, the potential for manganese in the Gila Lower Box WSA is low.

b. Zeolites

Although zeolite minerals may occur as fillings in vesicular andesites within the WSA, these occurrences are not typically of any economic use. For this reason, the WSA appears to have low potential for zeolite resources.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE GILA LOWER BOX WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*	Approximate Acreage in Amended Boundary*
Energy Minerals				
Geothermal	Late Tertiary volcanics	Low	--	--
Nonenergy Minerals				
Manganese ^{a/}	Epithermal hypogene deposits along northwest trending faults; associated with travertine	Low	--	--
Zeolites	Amygdaloidal fillings in vesicular basalt and andesite	Low	--	--

Notes: *Acreage was not calculated for areas with low potential.

^{a/}Listed on the National Defense Stockpile Inventory of Strategic and Critical Minerals.

B. Watershed

Within the Gila Lower Box WSA, water use is primarily by livestock and wildlife, limited warm water fishery, and secondary contact recreation. There are currently no water developments within the WSA; however, one development is proposed for livestock use (see Chapter III, Livestock Grazing).

The Gila Lower Box is within the Gila-San Francisco declared underground water basin and ground water use is administered by the New Mexico State Engineer. In the Gila-San Francisco underground water basin, all existing water rights have been adjudicated and there is presently no additional water available for appropriation for any purpose.

Water draining the Gila Lower Box WSA, as both surface flow and underground flow, contributes to the Gila River system. This water is important for sustaining riparian vegetation along the river and additional downstream uses including irrigation and limited drinking water.

A watershed decision in the Gila MFP (BLM 1977) identifies areas where water control structures to reduce flood and sediment damages should be considered. A portion of this area lies within the Gila Lower Box WSA. However, it is not likely that these structures would be built in the foreseeable future. Also, opportunities exist for construction outside the WSA.

Two of the management objectives for the Gila River Lower Box Riparian ACEC relate to watershed. They are (1) to maintain and improve channel stability of the Gila River and (2) to manage the public land to maintain and improve water quality to meet State standards for fecal coliform count, dissolved oxygen, pH, and temperature. The ACEC is discussed in detail in Chapter III, Wildlife, of this report.

C. Livestock Grazing

1. Allotments

Parts of four grazing allotments are within the Gila Lower Box WSA. Licensed grazing use on the public land includes cattle and a few horses. The Lazy B Cattle Company allotment (5058) is administered out of the BLM Safford District in Arizona.

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
J. R. and C. Donaldson 1016	2,400	288	1,989	239	83%
R. Johns 1076	1,650	288	423	75	26%
Caprock 1078	30,028	4,884	5,234	830	17%
Lazy B Cattle Co. 5058	109,070	24,905	909	249	1%
TOTAL			8,555	1,393	

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Type of Development	Location
J. R. and C. Donaldson 1016	9 erosion control dikes	T. 19 S., R.20 W., Sec. 19, 20
Caprock 1078	Corrals and drinking trough	T. 19 S., R. 20 W., Sec. 35

Note: ^{a/}Information shown in the table reflects only Federal acres and animal unit months (AUMs) and rangeland developments on public land.

Boundary Fences:

Caprock 1078 and Lazy B Cattle Co. 5058	2 miles
Caprock 1078 and Donaldson 1016	1 mile
Donaldson 1016 and Lazy B Cattle Co. 5058	1½ miles
Donaldson 1016 and Johns 1076	3 miles

3. Potential Rangeland Developments

There is one dirt tank proposed on the Donaldson allotment (1016) in T. 19 S., R. 20 W., Section 28 (BLM Las Cruces/Lordsburg MFP Amendment/EIS 1984). The location of this rangeland development is tentative. The purpose of the proposed dirt tank is not to accommodate increased livestock numbers, but to redistribute grazing use over the Donaldson allotment (1016) and relieve grazing pressure around existing livestock waters. The rangeland condition on presently heavily grazed areas of the allotment could show improvement in the long-term.

The entire 6 mile stretch of the Gila River within the Gila Lower Box WSA flows through the Caprock Mountain allotment (1078). Approximately 17 percent of the allotment is within the WSA, 17 percent is north of the WSA, and the remaining 66 percent of the allotment is south of the WSA. A Rangeland Improvement Justification Plan (RIJP) (BLM 1984) outlining overall management objectives and needed rangeland developments has been prepared for the Caprock Mountain allotment. The RIJP includes plans to divide the allotment, through fencing, into more evenly sized pastures and to create livestock waters in the southwest, south-central, east-central, central, and northern parts of the allotment where livestock waters are inadequate. The fencing and additional waters would keep livestock out of the bottom of the Gila River Canyon where they congregate for extended periods because of the availability of water and shade. Overall, these facilities would provide for more even utilization of forage over the entire allotment and facilitate more efficient livestock management. Proposed developments in or near the WSA include a pipeline and trough along the cherry-stemmed road to Spring on the Bluff (see Map 36-1)

in T. 19 S., R. 20 W., Sections 26 and 35, and fencing along the north and south rims of the river canyon. The proposed fencing could consist of fences along the entire length of the rims or fences across only those drainages where livestock have access down to the river. A water gap would be required across the river in the area south of Canador Peak. The water gap would allow livestock access to the river for watering, but would prevent access into the canyon. The livestock would be forced to travel back up onto the river breaks and uplands to feed. Access to the Gila River for livestock watering is necessary because the river serves as a base water for the permittee's livestock operation. Control of base waters is required for grazing privileges on public land. The permittee cannot transfer his base water to other existing sources at the present time.

D. Recreation

This area provides a variety of primitive recreation opportunities based on the Gila River and the Lower Box Canyon. A discussion of these opportunities is located in Chapter IV, Primitive and Unconfined Recreation.

The special management objectives of the Gila River Lower Box Riparian ACEC, as they relate to recreation, include the maintenance of recreation resources by preserving scenic values and preserving primitive recreation opportunities. The ACEC is discussed in detail in Chapter III, Wildlife, of this report.

E. Realty Actions

A portion of the Gila Lower Box WSA is withdrawn for use in connection with the San Carlos Indian Irrigation Project. The purpose of the withdrawal is watershed protection.

In addition, segments of the WSA are withdrawn for powersite reservations by Executive Order. These lands are currently being reviewed by the U.S. Geological Survey, Water Resources Division, to determine their importance for powersite locations. Those withdrawals found not feasible for powersites will be revoked.

The U.S. Geological Survey, Water Resources Division, was granted a temporary right-of-way for a new gauging station on the Gila River just inside the northeast boundary of the WSA. The right-of-way and gauging station conform with the Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM 1979). The station is part of a network of surface water gauging stations on the Gila River Basin. The base data collected at the gauging station consist of stream discharge measurements. The data are important for many hydrologic investigations, including flood flow frequency analysis.

F. Wildlife

There are no existing wildlife developments in the Gila Lower Box WSA, but several potential uses exist. The New Mexico Department of Game and Fish wants to look at the area intensively to determine the full

potential for desert bighorn sheep. If it is suitable habitat, bighorn sheep could be transplanted in the future (Sandoval 1982).

The Gila MFP (BLM 1977) contains a number of decisions related to wildlife. These include BLM sponsorship of research for endangered species and javelina in the Gila River Valley, and preparation of a Habitat Management Plan (HMP) with emphasis on riparian vegetation and the wildlife dependent on it. The management objectives and planned actions prescribed for the HMP were incorporated into the Gila River Coordinated Resource Management Plan (CRMP) prepared in 1985. This plan includes the Gila Lower Box as well as other portions of the river and adjacent watershed. BLM has not yet sponsored research in the area.

An area of 2,469 acres totally within the Gila Lower Box WSA was proposed as the Gila River Lower Box Riparian ACEC and the impacts of designating the area analyzed in the Las Cruces/Lordsburg MFP Amendment/EIS (BLM 1983) for energy minerals leasing, rangeland management, and ACECs. Approval of the plan in early 1984 constituted formal designation of the ACEC with the provision that if the Gila Lower Box WSA is designated wilderness by Congress, the ACEC designation would be cancelled without further planning action and the management objectives of the ACEC would be met through wilderness management.

The resources of the Gila Lower Box meet the two criteria required for an area to be identified as an ACEC: (1) the resources are "relevant" in that they include resources specifically listed in the definition of an ACEC in Section 103(a) of the Federal Land Policy and Management Act. The important resources in the Lower Box are cultural and scenic values, fish and wildlife resources, and important natural systems or processes, and (2) the resources are "important" because they have more than local significance.

The ACEC contains 6 miles of river valley with a temperate riparian deciduous forest vegetation type. Typical plant species are cottonwood, willow, and sycamore with an understory of shrubs such as mesquite, seepwillow, and various grasses and forbs. The thickest vegetation is in clumps near the river bottom. The vegetation community is in a dynamic state because of fluctuations in the water level. It has adapted to this, and the maintenance of the riparian vegetation depends on periodic flooding.

Riparian areas serve important hydrologic functions that are especially important in the arid Southwest. A good growth of riparian vegetation helps stabilize channel erosion. Riparian areas also serve as ground water recharge areas.

The Gila River and its major tributary, the San Francisco River, together with the tributaries of both, is the most important river system in New Mexico from a biological point of view. Zeller (1981) stated that the Gila System, in its present state in New Mexico, ranks high in comparison to any other systems in the southwestern United States.

The Gila River System extends into the Mogollon Plateau to the north, into the Chihuahuan Desert in western New Mexico, and through the Sonoran Desert in Arizona. There is also a great deal of influence from Mexico. As a result, a diverse wildlife community is found in the river valley. Although the ACEC is less than 1 percent of the Las Cruces/Lordsburg Resource Area, as many as half the wildlife species which occur in the State could be found in the ACEC.

The Heritage Conservation and Recreation Service prepared a Nationwide Rivers Inventory (National Park Service 1982) of rivers that might be eligible for wild, scenic, or recreational river status as outlined in the Wild and Scenic Rivers Act (Public Law 90-542, October 2, 1968). A 97-mile length of the Gila River extending from the Arizona-New Mexico border to the confluence of the East and West Forks within the Gila National Forest was identified in the Nationwide Inventory. This part of the Gila River is also included in the proposed New Mexico Rivers System. The Gila Lower Box ACEC is located in this segment of the Gila River.

In addition, the ACEC contains important scenic and cultural values. These values are described in Chapter II, Visual, and Chapter II, Cultural, respectively. As a result of the resources and values described above, the area provides primitive recreation opportunities unique to the region. Primitive recreation opportunities are discussed in Chapter IV, Primitive and Unconfined Recreation.

The management objectives and planned actions prescribed for the Gila River Lower Box Riparian ACEC were incorporated into the Gila River CRMP. The management objectives of the ACEC are:

1. to protect and improve riparian vegetation which provides habitat for nine Federal or State-listed endangered species, an avifauna which is one of the most diverse in the Southwest, equally diverse mammalian and reptilian communities which represent half the known mammals and reptiles in the State, and a warm water fisheries resource consisting of both native and non-native fishes;
2. to maintain and improve water quality at least to meet State standards for fecal coliform count, dissolved oxygen, pH, and temperature;
3. to maintain and improve channel stability;
4. to maintain the recreation and cultural resources by protecting and interpreting the petroglyph panels and rock shelters present in the area, preserving the scenic values, and preserving primitive recreation opportunities;
5. to allow livestock grazing to the extent that it is compatible with the other objectives.

The special management requirements of the ACEC include fencing small selected plots to protect riparian vegetation and restricting livestock use on the plots to allow reestablishment of bottomland species

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and improvement of ground cover. Six plots of approximately 5 acres each are to be fenced initially. One of the plots was fenced in the summer of 1984 but was washed away in the fall floods. The fencing meets the nonimpairment criteria outlined in the Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM 1979). When a good growth of riparian vegetation within these plots has been achieved, the fencing will be removed and additional plots fenced. However, if the fencing of the north and south rims of the river canyon as proposed in the RIJP for the Caprock Mountain allotment (1078) (see Chapter III, Livestock Grazing) is authorized, the fencing of 5-acre plots would no longer be necessary.

No surface occupancy would be allowed for energy minerals activities and the ACEC would be segregated from all forms of appropriation under the public land laws, including the mining and material sale laws. Signs for interpretation of the cultural resources would be placed at the canyon entrance points and the area would be closed to off-road vehicle use. Primitive recreation sites would be located at both ends of the canyon and maps and brochures would be developed as needed.

The special management requirements of the ACEC also recommend acquisition of the following lands:

<u>Legal Description</u>	<u>Acres</u>
T. 19 S., R. 19 W., Section 19: SW $\frac{1}{2}$ SW $\frac{1}{2}$	40
T. 19 S., R. 20 W., Section 21: SE $\frac{1}{2}$ SE $\frac{1}{2}$	40
Section 25: E $\frac{1}{2}$ E $\frac{1}{2}$	160
Section 28: W $\frac{1}{2}$ NE $\frac{1}{2}$	<u>80</u>
TOTAL	320

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

Overall, the Gila Lower Box WSA is virtually undisturbed by man. However, two impacts of man are located within the WSA. A vehicle way approximately 1½ miles long provides access to the private land inholding in T. 19 S., R. 20 W., Section 21, SE¼SE¼. Two prospect pits approximately 10 feet deep are located on the mining claims in T. 19 S., R. 20 W., Section 26. Other impacts of man in the area include a few fences which do not detract from the WSA's natural appearance.

Both ends of the Gila Lower Box Canyon are minimally impacted by developments along the WSA boundary. The U.S. Geological Survey's (USGS) old gauging station is approximately 400 feet from the northeast boundary of the WSA. The USGS' new gauging station was painted to blend in with the surrounding landscape and does not impair the naturalness of the river canyon. A concrete dam which diverts water from the river into the nearby Sunset Ditch Company's irrigation canal is just outside the west boundary of the WSA.

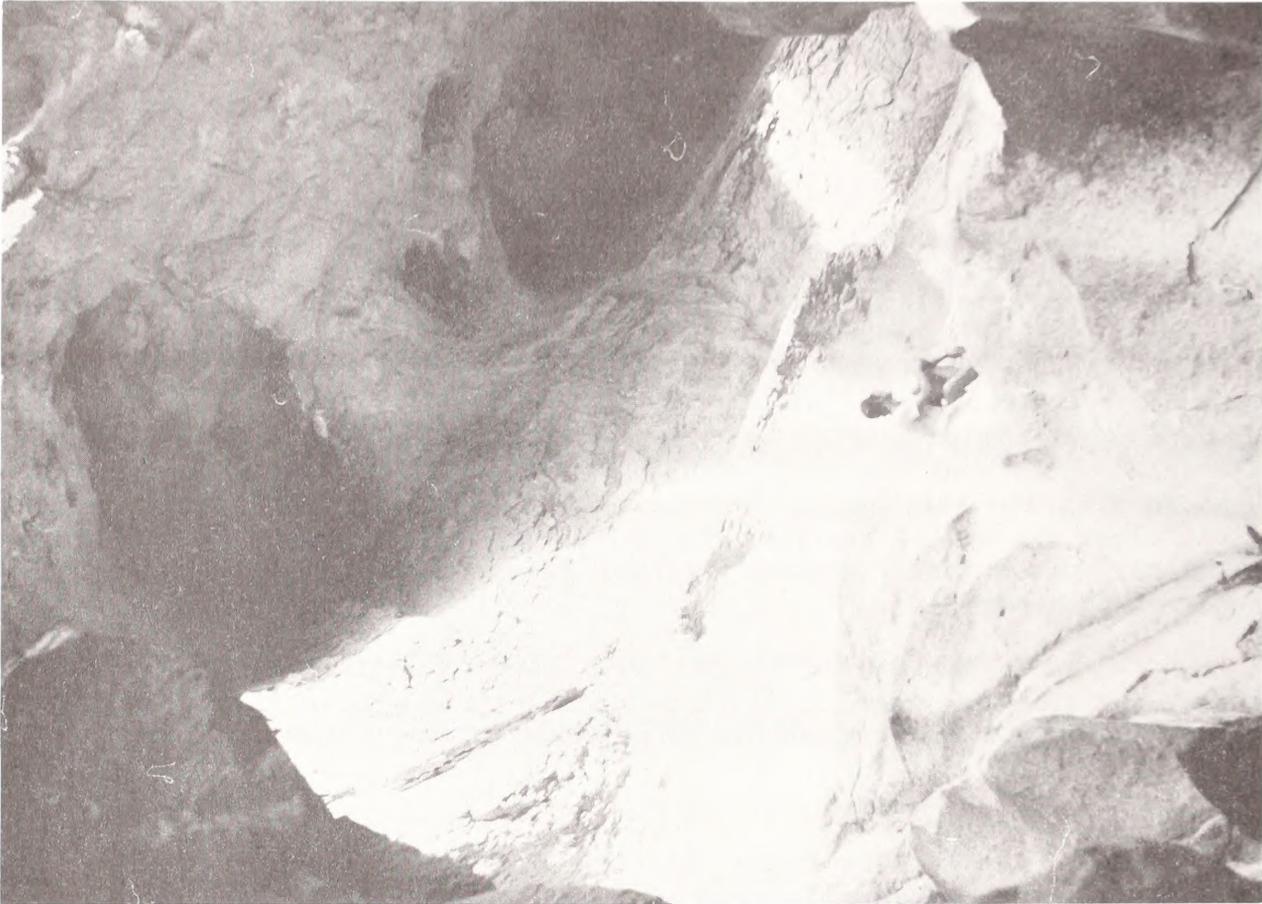
The canyon of the Gila River appears natural. From the canyon, one can see views of Black Mountain, the Rimrock, and Canador Peak. All of these views are undisturbed by evidence of man's work.

b. Solitude

The Gila Lower Box WSA offers outstanding opportunities for solitude. The WSA is composed of two distinct types of topography; the rugged Gila Lower Box Canyon, Rimrock and side canyons, and the less rugged rolling upland hills to the south. These different types of topography have different potentials for solitude.

The Gila Lower Box and side canyons offer numerous secluded spots. In the canyons, visitors are surrounded by the works of nature. The feeling of solitude away from others and the work of man comes quickly in this environment. The entire Lower Box Canyon and side canyons provide outstanding opportunities of this type. The impacts caused by the USGS' old and new gauging stations or the ditches and canals outside the WSA disappear from view after rounding the river's first bend.

The rolling upland hills south of the Lower Box Canyon offer a different type of solitude. A visitor here has a longer view with fairly open and distant horizons. Traveling across the rolling hills, a visitor may occasionally encounter minimal evidence of man's work, such as fences. Since the hills have no topographic features to funnel visitors into a small area, groups would generally fan out into different areas. Interaction with other groups would be unlikely.

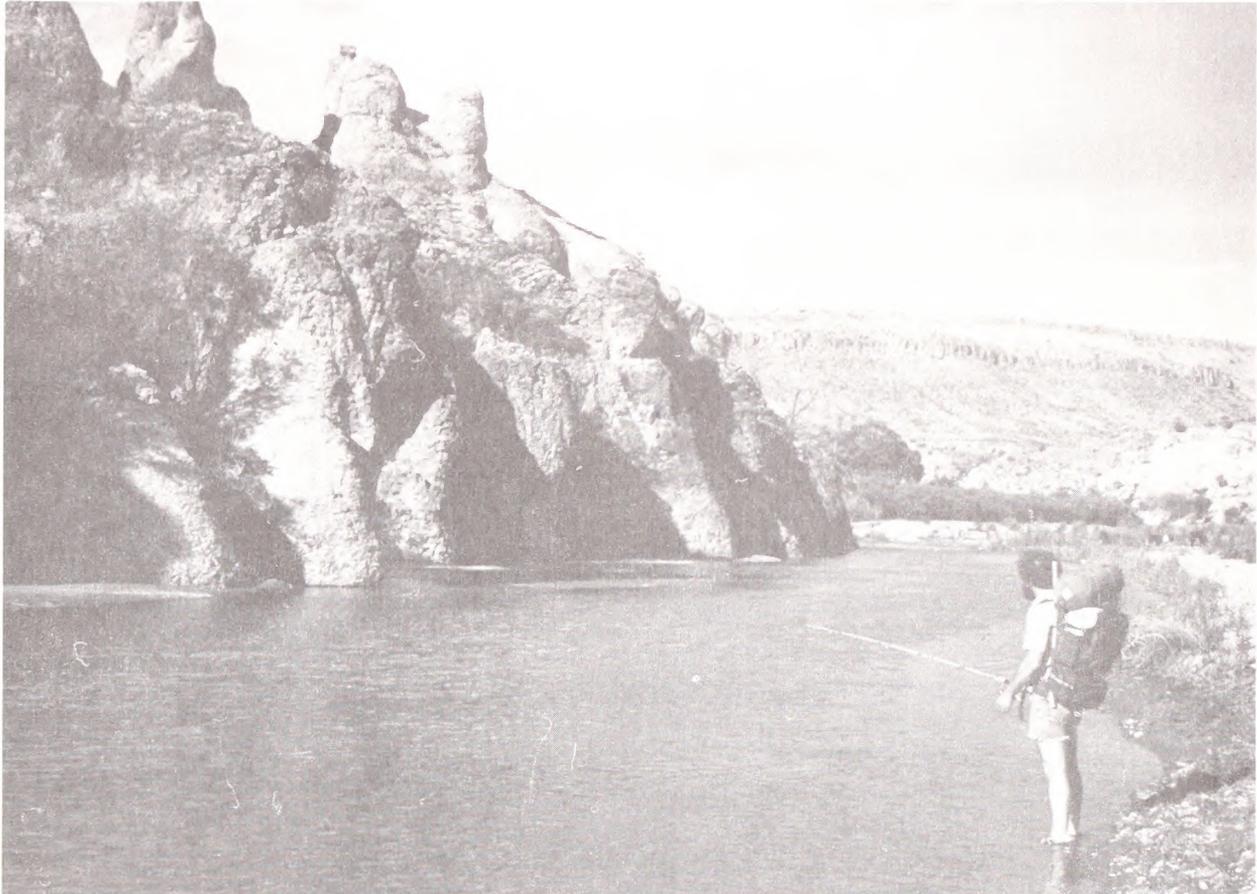


Side canyons of the Gila Lower Box offer numerous opportunities for solitude.

The potential for solitude in that portion of the WSA which is west of the cherry-stemmed road in T. 19 S., R. 20 W., Sections 20 and 29 is impacted somewhat by the sights and sounds of Highway 82 and the farming along the Gila River. Noise from the highway may enter the western edges of this portion of the WSA.

c. Primitive and Unconfined Recreation

The Gila Lower Box WSA offers outstanding opportunities for primitive and unconfined recreation. The combination of the desert scenery, riparian vegetation, wildlife diversity, and cultural values within the canyon provides a recreational opportunity unique in the region. Any primitive activity is enhanced by this variety of resources. Specific recreational opportunities include hiking, camping, picnicking, nature study, sightseeing, photography, bird hunting, bird watching, swimming, and during the spring runoff, floating the river with rafts, canoes, or kayaks.



Fishing on the Gila River.

The location and topography of the WSA improves opportunities for recreation. Vehicular access at the ends of the canyon and at Spring on the Bluff and Fisherman's Point allows the user to choose the desired hiking distance. (See Map 36-1 for general locations of these areas.) Users may park at any number of access points and hike into the canyon. Trips can vary from short day hikes to overnight trips of different lengths. The combination of several access points and numerous side canyons allows variety and diversity in each visit to the area.

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The Gila Lower Box offers a unique variety and quality of recreational opportunities within a publicly accessible area. These opportunities are truly outstanding because of both the quality and the diversity of opportunities within a pristine environment.

2. Special Features

The Gila Lower Box WSA contains special ecological, geological, cultural, and scenic features.

The ecological features include both vegetation and wildlife values of scientific and educational interest. The riparian vegetation associated with the Gila Lower Box is varied and diverse and supports an equally diverse wildlife community. Almost half of the vertebrate species which occur in New Mexico can be found along the lower Gila River. Most of these species are found in the WSA and many are near their geographic distributional limits. The WSA also provides significant habitat for threatened or endangered animal species and habitat for a plant species listed as endangered by the State of New Mexico which is also a candidate for Federal listing. (See Chapter II, Vegetation and Wildlife.)



Erosional columns, called Hoodoos, add geologic interest to the WSA's scenery.

The special geological features of the WSA are of educational value. The Lower Box portion of the Gila River displays many of the characteristics of a youthful stream (see Chapter I, Climate and Topography).

The special cultural features in the WSA include several large petroglyph panels and a number of rock shelters and rock structures (see Chapter II, Cultural). The Gila Lower Box WSA also has outstanding scenic features. The Lower Box Canyon has a Class A (high) scenic quality rating (see Chapter II, Visual).

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the area as being in the Chihuahuan Desert Province with a potential natural vegetation of grama-tobosa shrubsteppe.

The general nature of the Bailey-Kuchler System fails to show the vegetation variety and diversity of the WSA. Further refinement of the system shows the following vegetation types in the WSA:

<u>Vegetation Type</u>	<u>Acres</u>
grama-tobosa shrubsteppe	2,138
creosote	3,380
Trans-Pecos shrub savanna	2,583
mesquite acacia savanna	454

b. Distance From Population Centers

The WSA is approximately 3 hours driving time from Las Cruces, New Mexico; 6 hours from Albuquerque, New Mexico; 4 hours from El Paso, Texas; 4 hours from Tucson, Arizona; and 6 hours from Phoenix, Arizona.

B. Manageability

Several factors could affect the wilderness manageability of the Gila Lower Box WSA: private inholdings and private land adjacent to the WSA boundary, withdrawals, and mining claims.

There are 120 acres of private inholdings in the Gila Lower Box WSA. The 40 acres of private land in T. 19 S., R 20 W., Section 21 are used

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as a salting ground by the owner. A primitive vehicle way provides the existing access to the private inholding. The vehicle way is located so that it crosses several steep arroyos near the south boundary of the WSA. These arroyos occasionally flood and wash out the way so that vehicle passage is difficult or impossible. This way and the current use of the parcel does not significantly affect the wilderness values of the WSA. However, occasional maintenance of the washed out crossings may be necessary if existing vehicular access is to be maintained. Development of the existing primitive route into a high standard road could impact wilderness values since additional vehicular access into the center of the WSA could reduce visitor management options, increase noise, and slightly reduce the local area's apparent naturalness. However, at the present time, upgrading of the route does not appear likely or necessary for the existing use.

There is no vehicular access to the 80-acre private inholding in Cottonwood Canyon. Existing use of the spring on this inholding for watering of livestock would not affect the wilderness manageability of the Gila Lower Box WSA.

The Gila River passes through the private land adjacent to the WSA in T. 19 S., R. 19 W., Section 19, and T. 19 S., R. 20 W., Section 25. This parcel of private land also includes one of the more interesting south-cutting side canyons, Box Canyon. Box Canyon is over a mile long and contains cultural, wildlife, and recreational values. Visitors in this portion of the Gila Lower Box could inadvertently trespass on the private land to cross the river or explore the side canyon.

The following 320 acres of private land within and adjacent to the WSA boundary should have a high priority for acquisition if the area is designated wilderness:

	<u>Acres</u>
T. 19 S., R. 19 W., Section 19: SW $\frac{1}{2}$ SW $\frac{1}{2}$	40
T. 19 S., R. 20 W., Section 21: SE $\frac{1}{2}$ SE $\frac{1}{2}$	40
Section 25: E $\frac{1}{2}$ E $\frac{1}{2}$	160
Section 28: W $\frac{1}{2}$ NE $\frac{1}{2}$	80
	<hr/>
TOTAL	320

The acquisition of these lands would eliminate manageability problems associated with the impacts of nonwilderness uses, construction or upgrading of access, and inadvertent trespass of wilderness users onto the private land. In addition, these lands contain wildlife and cultural values and acquisition would enhance the special features of the WSA as well as opportunities for solitude and primitive recreation.

The San Carlos Indian Irrigation Project and other powersite withdrawals are within the WSA. The San Carlos Indian Irrigation Project withdrawals do not pose a manageability problem. The management restrictions of wilderness would not conflict with the purpose of this withdrawal, which is watershed protection. The potential uses of the

approximately 4,760 acres under powersite withdrawal along the banks of the Gila River and within the WSA boundary do not pose a manageability problem, but rather a resource conflict. It is highly unlikely that the area would be designated wilderness before the powersite withdrawal issue is settled. It is assumed that the issue of powersite development versus wilderness would either be settled administratively by a revocation of the withdrawals before the matter reaches Congress, or the matter will be settled by Congress as it decides whether the parcels will be dedicated to wilderness or power development.

There are three mining claims within the Gila Lower Box WSA. These claims could affect the manageability of the WSA as follows.

Once an area is designated wilderness, the provisions of the Wilderness Management Policy (WMP) (BLM 1981) apply. Under the WMP, holders of mining claims validly established in the area prior to its designation as wilderness may develop their claims in accordance with the 43 CFR 3809 regulations, "Surface Management of Public Lands Under U.S. Mining Laws." Although exercise of the rights of mining claimants must be with the least possible impact on the wilderness resource and claimants will be required to prevent unnecessary or undue degradation of the land, mining operations may impair wilderness values if there are no reasonable alternatives. In this case, there is a possibility that the wilderness values of the WSA could be degraded after the area is designated wilderness.

The likelihood of extensive development on these claims is remote since the mineral potential of the WSA is low.

The Gila Lower Box WSA could be managed to preserve its wilderness character. The highest quality wilderness values in the WSA are concentrated in the Lower Box and its side canyons. These values revolve around the Gila River and the associated riparian vegetation. Special features and values in the WSA include wildlife, cultural sites, and opportunities for solitude and recreation. All of these values and special features could be preserved on a sustained yield basis over the long-term under wilderness management.

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 8,555 acres of public land within the Gila Lower Box WSA would be recommended suitable for wilderness designation. (See Map 36-1 for location of WSA boundary.)

If designated wilderness, the existing uses and activities in the area and potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the BLM's Wilderness Management Policy (WMP) (1981). Upon designation of the Gila Lower Box WSA as wilderness, the 2,469-acre Gila River Lower Box Riparian ACEC would be cancelled without further planning action. The management objectives of the ACEC would be met through wilderness management. Briefly, these objectives are: (1) to protect and improve riparian vegetation, (2) to maintain and improve water quality, (3) to maintain and improve channel stability, (4) to maintain the recreation and cultural resources, and (5) to allow livestock grazing to the extent that it is compatible with the other objectives. (See Chapter III, Wildlife, for a detailed discussion of the ACEC management objectives and special management requirements.) Projects and procedures outlined in the special management requirements for the ACEC could require modification to bring them into conformance with the WMP.

1. Impacts on Wilderness Values

Under the All Wilderness Alternative, the naturalness of the river canyons and uplands and outstanding opportunities for solitude would be maintained and enhanced by 3-5 percent in the long-term by the closure of 1½ miles of vehicle ways. Limitations on the use of motorized equipment in the WSA would also enhance the naturalness and opportunities for solitude by 3-5 percent. The construction of the 7.5 miles of fences, water gap, and vegetation enclosures in the canyon would degrade naturalness by 3-5 percent. Opportunities for solitude would be degraded during the period of construction. Impacts on naturalness would be offset by increased amount and diversity of riparian vegetation in the canyon as a result of excluding livestock from the area. As the condition of the riparian vegetation improved, naturalness would be enhanced by 30 percent in the long-term as would the amount and diversity of wildlife associated with the riparian area.

The improvement of the riparian vegetation would also improve the quality of the opportunities for hiking, camping, picnicking, nature study, sightseeing, photography, bird watching, swimming and floatboating in the canyon by 30 percent.

The installation of the water gap across the river in the area south of Canador Peak would have a minimal impact on floating opportunities. The water gap would be less than 1 mile upstream of the Sunset Ditch Company's diversion dam in T. 19 S., R. 20 W., Section 21, W½W½, where portaging is already required. The special ecological, geological, cultural, and scenic features of the area would be maintained through wilderness management.

Management of wildlife and wildlife habitat under the habitat management plan (HMP) and transplanting desert bighorn sheep into the WSA would enhance the special wildlife features of the WSA.

Conclusion. Under the All Wilderness Alternative, the area's naturalness, outstanding opportunities for solitude and recreation, and special features would be maintained and enhanced by up to 30 percent in the long-term.

2. Impacts on Wildlife Habitat and Threatened and Endangered Species

Under this alternative, the wildlife and wildlife habitat would be managed under a HMP (BLM Gila MFP 1977). The HMP would cover most of the riparian areas on Federal land in the Gila Lower Box area including many of the tributaries into the Gila River. The management objective of the HMP would emphasize the riparian vegetation and associated wildlife species. Many of these species are threatened or endangered (see Chapter III, Wildlife). Projects proposed in the HMP would not be significantly affected under wilderness management because the WMP allows habitat manipulations or wildlife projects for the benefit of threatened or endangered wildlife species as long as the resulting changes would be compatible with the preservation of wilderness character, would be consistent with wilderness management objectives for the area, and are the minimum necessary to accomplish the task.

Since the objectives of the projects are to improve the natural vegetation in the WSA and improve habitat for threatened or endangered species, it is anticipated that some, if not all, of the projects prescribed in the Gila Lower Box ACEC Plan and the Caprock Mountain Allotment Range Improvement Justification Plan would be approved under the Wilderness Management Policy. Fencing small plots to protect riparian vegetation and fencing the canyon rims and water gaps to exclude livestock would result in improved vigor, stand structure, and ground cover of the riparian vegetation within the excluded areas. Bottomland species would be able to reestablish themselves. In the long-term, a 30 percent improvement in the condition of the riparian vegetation with a corresponding improvement in wildlife and aquatic habitat would occur. More than 300 terrestrial wildlife species and 12 fish species would benefit. Eight of the terrestrial species and two of the fish species are on either Federal or State-endangered lists.

Conclusion. Implementation of the proposed projects to improve riparian vegetation and wildlife habitat would improve naturalness by 30 percent, thereby providing a beneficial impact on threatened and endangered species and wildlife in general in the Gila Lower Box.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 11 head per section per year (1,393 AUMs) of livestock grazing use. Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock

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grazing use include 7½ miles of fence, corrals and a drinking trough. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

The proposed dirt tank on the Donaldson allotment (1016) or the proposed fencing and water gap for the Caprock allotment (1078) could be constructed if it were determined through site-specific analysis that the projects are necessary for the purpose of rangeland or wilderness protection. Road construction and motorized access to the developments would not be authorized.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. Amended Boundary (Proposed Action)

Under the Amended Boundary Alternative, 5,835 acres of public land within the Gila Lower Box WSA would be recommended suitable for wilderness designation (see Map 36-1 for amended WSA boundary). The amended boundary would exclude 2,720 acres of public land on the southwest, south, and east boundaries of the WSA. This area would be managed under the Las Cruces/Lordsburg Management Framework Plan Amendment (BLM 1984). That plan prescribes livestock grazing as the primary use of the area. The area would also be open to oil and gas leasing although energy mineral potential in the area is low. Approximately 2,200 acres of the excluded acreage would be managed according to the Gila River Coordinated Resource Management Plan (CRMP). The plan generally prescribes improved livestock grazing management for the excluded area.

If the area within the amended boundary is designated wilderness, existing and potential uses (see Chapter III) would be regulated by the Wilderness Management Policy (1981). Upon designation of the area within the amended boundary as wilderness, the 2,469-acre Gila Lower Box Riparian ACEC would be cancelled without further planning action. The management objectives of the ACEC would be met through wilderness management and would be affected as described under the All Wilderness Alternative.

In 5,835 acres designated as wilderness, closure to vehicle use will result and opportunities for exploration and development of minerals would be foregone. Short-term consumptive uses would not degrade the maintenance and enhancement of the long-term productivity. Although designation of wilderness constitutes a long-term commitment of resources, such designation is reversible by Congress.

In the 2,720 acres not designated as wilderness, unavoidable adverse effects of the proposed action will result from future surface

disturbance activities. Cumulative short-term consumptive uses of this land will lead to long-term degradation of wilderness values. Nondesignation of 2,720 acres as wilderness would leave this acreage available for development which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

Under the Amended Boundary Alternative, the river canyons naturalness and outstanding opportunities for solitude would be maintained and enhanced by 3-5 percent in the long-term by the closure of 1½ miles of vehicle ways. Limitations on the use of motorized equipment in the WSA would also enhance naturalness and opportunities for solitude. The construction of the 7.5 miles of fences, water gap, and vegetation enclosures in the canyon would slightly degrade naturalness. Opportunities for solitude would be degraded by 10 percent during the period of construction. Impacts on naturalness would be offset by increased amount and diversity of riparian vegetation in the canyon as a result of excluding livestock from the area. As the condition of the riparian vegetation improved, naturalness would be enhanced in the long-term as would the amount and diversity of wildlife associated with the riparian area.

The improvement of the riparian vegetation would also enhance by 30 percent the quality of the opportunities for hiking, camping, picnicking, nature study, sightseeing, photography, bird watching, swimming, and floatboating in the canyon.

The installation of the water gap across the river in the area south of Canador Peak would have a minimal impact on floating opportunities. The water gap would be less than 1 mile upstream of the Sunset Ditch Company's diversion dam in T. 19 S., R. 20 W., Section 21, W½W½, where portaging is already required. The special ecological, geological, cultural, and scenic features of the area would be maintained through wilderness management.

Approximately 2,720 acres in the southwest, south, and east portions of the WSA would not be protected by Congressional designation. The east boundary of the WSA would be adjusted to exclude the USGS gauging station. The boundary adjustments in the south and southwest exclude portions of the WSA with marginal opportunities for solitude (see Chapter IV, Solitude). This area is not part of the river canyon or side canyons and does not contribute to the value of the area as wilderness. Location of the southern boundary of the designated wilderness along section lines would simplify legal description and on-the-ground identification of the wilderness boundary (see Chapter IV, Manageability). Off-road vehicle use in the area associated with recreation and vehicle use associated with livestock grazing operations would eventually erode the area's marginal wilderness qualities. At the present time, it appears that the area within the amended boundary could be managed as wilderness.

Conclusion. Wilderness values would be protected in the long-term within the amended boundary. Marginal wilderness qualities on the 2,720 acres excluded would be degraded by 10 percent.

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2. Impacts to Wildlife Habitat and Threatened or Endangered Species

Under this alternative, the wildlife and wildlife habitat would be managed under a HMP (BLM Gila MFP 1977). The HMP would cover most of the riparian areas on Federal land in the Gila Lower Box area including many of the tributaries into the Gila River. The management objective of the HMP would emphasize the riparian vegetation and associated wildlife species. Many of these species are threatened or endangered (see Chapter III, Wildlife). Projects proposed in the HMP would not be significantly affected under wilderness management because the WMP allows habitat manipulations or wildlife projects for the benefit of threatened or endangered wildlife species as long as the resulting changes would be compatible with the preservation of wilderness character, consistent with wilderness management objectives for the area, and if the projects are the minimum necessary to accomplish the task.

Since the objectives of the projects are to improve the natural vegetation in the WSA and improve habitat for threatened or endangered species, it is anticipated that some, if not all, of the projects prescribed in the Gila Lower Box ACEC Plan and the Caprock Mountain Allotment Rangeland Improvement Justification Plan would be approved under the Wilderness Management Policy. Fencing small plots to protect riparian vegetation and fencing the canyon rims and water gaps to exclude livestock would result in improved vigor, stand structure, and ground cover of the riparian vegetation within the excluded areas. Bottomland species would be able to reestablish themselves. In the long-term, a 30 percent improvement in the condition of the riparian vegetation with a corresponding improvement in wildlife and aquatic habitat would occur. More than 300 terrestrial wildlife species and 12 fish species would benefit. Eight of the terrestrial species and two of the fish species are on either Federal or State-endangered lists.

Wilderness management restrictions on surface disturbing and mechanized activities would provide long-term protection for wildlife habitat. Restrictions on vehicular access would eliminate the potential for harassment and poaching of wildlife and could reduce hunting pressure in the area.

Conclusion. Implementation of the proposed projects to improve riparian vegetation and wildlife habitat would improve naturalness by 30 percent thereby providing a beneficial impact on threatened and endangered species and wildlife in general in the Gila Lower Box.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 11 head per section per year (1,393 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 7½ miles of fence, corrals, and a drinking trough. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with

permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

The proposed fencing and water gap for the Caprock allotment (1078) could be constructed if it were determined through site-specific analysis that the projects are necessary for the purpose of rangeland or wilderness protection. Road construction and motorized access to the developments would not be authorized. The proposed dirt tank on the Donaldson allotment (1016) would likely be allowed.

Conclusion. Impacts on livestock operators would consist primarily of minor inconveniences due to restricted vehicular access. No impacts on current livestock grazing use levels would occur.

C. No Wilderness

Under the No Wilderness Alternative, the entire 8,555 acres of public land within the Gila Lower Box WSA would be recommended nonsuitable for wilderness designation.

If the WSA is not designated wilderness, 2,469 acres of the Gila Lower Box WSA would be managed as the Gila River Lower Box Riparian ACEC (BLM Las Cruces/Lordsburg MFP Amendment 1984). (See Map 36-1 for general location of the ACEC.) The management objectives of the ACEC would be to protect and improve riparian vegetation, to maintain and improve water quality and channel stability, and to maintain existing recreation and cultural resources. Livestock grazing would be allowed to the extent that it is compatible with the other objectives.

The special management requirements would include fencing approximately 6 plots of approximately 5 acres each to protect riparian vegetation. Livestock use would be excluded on the fenced plots. However, if the fencing of the canyon rims and the water gap as proposed in the RIJP for the Caprock Mountain allotment (1078) is authorized, the fencing of small plots would no longer be necessary. (See Chapter III, Livestock Grazing.) No surface occupancy for energy minerals activities would be allowed and the area would be segregated from all forms of appropriation under the public land laws including the mining and mineral material sale laws. The boundary of the NSO and segregated area is drawn on legal subdivisions to simplify legal descriptions and totals 2,631 acres. The area would be closed to off-road vehicle use. Interpretive signs would be placed at main entrance points to the canyon to interpret the cultural resources of the area. Primitive recreation sites with trash cans and signs could be developed at either end of the canyon to provide for parking and serve as trailheads. The special management requirements for the ACEC also include a recommendation for acquisition of the following 320 acres of private land for inclusion in the ACEC:

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T. 19 S., R. 19 W., Section 19: SW $\frac{1}{4}$ SW $\frac{1}{4}$
T. 19 S., R. 20 W., Section 21: SE $\frac{1}{4}$ SE $\frac{1}{4}$
Section 25: E $\frac{1}{4}$ E $\frac{1}{4}$
Section 28: W $\frac{1}{4}$ E $\frac{1}{4}$

Existing and potential uses on the remaining 6,086 acres within the Gila Lower Box WSA would be managed in accordance with the Gila MFP (BLM 1977), the Las Cruces/Lordsburg MFP Amendment (BLM 1984) and the Gila River CRMP. These plans prescribed livestock grazing as the primary use of the area. The remaining acreage would also be open to oil and gas leasing with no protective stipulations (Las Cruces/Lordsburg MFP Amendment) and to mining claim location. Increased vehicular use of existing ways and the creation of additional access routes is likely to occur as a result of livestock operations and recreational use of the area. Due to the low energy and nonenergy mineral potential of the area, oil and gas exploration and mining claim location are not likely to occur.

As noted in Chapter IV, Manageability, there are approximately 4,760 acres of powersite withdrawals along the river within the WSA boundary. Approximately 900 acres of the withdrawals are within the boundary of the ACEC. The powersite withdrawals represent valid existing rights. If these rights are exercised to use the area for powersites and related purposes, the management objectives of the ACEC would be subordinate to the valid existing rights. The powersite withdrawals are currently under review by the USGS, Water Resources Division.

1. Impacts on Wilderness Values

Approximately 2,469 acres of the WSA would be administratively protected as the Gila River Lower Box Riparian ACEC. Although management of all of the WSA acreage as specified in land use plans would be subject to administrative change in the long-term, the area within the ACEC could substantially retain its natural appearance, outstanding opportunities for solitude and primitive recreation, and special ecological, geological, cultural, and scenic features as long as it is managed as an ACEC.

The management of wildlife under a HMP and the transplanting of desert bighorn sheep into the area would enhance the special wildlife features of the WSA. Improvement in the riparian vegetation as a result of exclusion of livestock from the fenced plots or from the entire river canyon would enhance the natural values in the Lower Box portion of the WSA in the long-term. NSO stipulations on energy minerals leases and segregation from mineral entry would limit surface disturbance that could impact the area's naturalness.

Improved riparian vegetation would benefit birdwatching opportunities and improvement in watershed conditions and water quality would enhance water-based recreation opportunities such as swimming, kayaking, rafting, and canoeing. The installation of the water gap across the river in the area south of Canador Peak would have a minimal impact on floating opportunities. The water gap would be less than 1 mile upstream of the Sunset Ditch Company's diversion dam in T. 19 S., R. 20 W., Section 21, W $\frac{1}{4}$ W $\frac{1}{4}$, where portaging is already required. Improvement in fisheries habitat could slightly improve fishing opportunities. Designation of the ACEC as

limited to existing roads and trails for ORV use, the development of primitive recreation sites at either end of the Gila River Canyon, the installation of signs at major access points describing cultural resources, and the acquisition of adjacent private land would generally enhance existing primitive recreation opportunities within the ACEC. The portion of the WSA within the ACEC (approximately 29 percent of the WSA) could be expected to substantially retain its wild character as long as the area is administratively protected.

The construction of the water control structures proposed in the Gila MFP (BLM 1977) for watershed protection could degrade the quality of the apparent naturalness in the southern part of the WSA. However, as of June 1986, there were no proposals to build any of the structures. Due to the current low priority of such projects with BLM, it is not expected that they would be constructed in the short-term. Whether the projects would be constructed in the long-term would be determined in subsequent land-use planning cycles. It is likely that sites for construction could be found outside the WSA, therefore the potential for construction of these projects to impact the WSA appears low at this time.

Conclusion. Wilderness values especially naturalness within the Gila Lower Box Riparian ACEC would be substantially retained. Wilderness values in the area outside the ACEC boundary would be degraded by 10 percent over time as a result of continued vehicle use, and construction of new rangeland developments.

2. Impacts on Wildlife Habitat and Threatened or Endangered Species

Under this alternative, the wildlife and wildlife habitat would be managed under a HMP which would be incorporated into the Gila Lower Box CRMP. The HMP would cover most of the riparian areas on public land in the Gila Lower Box area including many tributaries into the Gila River. The management objectives would be similar to those for the ACEC, emphasizing improvement of the riparian vegetation and associated wildlife species. Many of these species are threatened or endangered (see Chapter III, Wildlife).

The ACEC projects involving fencing small plots to protect riparian vegetation and the fencing of the canyon rims and water gap to exclude livestock grazing would result in improved vigor, stand structure, and ground cover of the riparian vegetation within the excluded areas. Bottomland species would be able to reestablish themselves. In the long-term, significant improvement in the condition of the riparian vegetation with a corresponding improvement in wildlife and aquatic habitat would occur. More than 300 terrestrial wildlife species and 12 fish species would benefit. Eight of the terrestrial species and two of the fish species are on either Federal or State-endangered lists.

Conclusion. Implementation of the proposed projects to improve riparian vegetation and wildlife habitat would improve naturalness by 10 percent, thereby providing a beneficial impact on threatened or endangered species and wildlife in general in the Gila Lower Box.

3. Impacts on Livestock Grazing Use Levels

Livestock grazing use levels would continue at approximately 11 head per section per year (1,393 AUMs). The special management requirements for the ACEC would not significantly impact livestock grazing. The ACEC encompasses approximately 100 acres of the Donaldson allotment (1016) and 2,369 acres of the Caprock allotment (1078). There would be no loss of AUMs on these allotments as a result of the exclusion of livestock grazing on the small plots or as a result of the exclusion of livestock grazing from the entire canyon bottom by fencing the canyon rims. Vehicle use would be restricted to existing roads in the ACEC. There would be no restrictions on vehicle use in the remainder of the area.

Conclusion. Livestock grazing use would continue at existing levels of 11 head per section per year (1,393 AUMs). No other impacts are projected.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Numerous public comments were received on the Gila Lower Box unit during the public review periods on the BLM New Mexico Wilderness Review Initial Inventory Decisions (July 1979) and the BLM New Mexico Wilderness Study Area Proposals (March 1980).

This WSA was one of the ten most discussed units during the comment period on the WSA Proposals. The majority of personal letters supported WSA status for the area. Most of the letters favoring WSA status for the area stated that the area offers outstanding opportunities for solitude and primitive types of recreation and cited the supplemental value of the petroglyphs, threatened or endangered species, and especially the unique values of a large natural riparian area in a desert setting.

Letters opposed to the WSA status of the area primarily cited resource conflicts such as mining, powerlines, recreational use, and ranching activities. Some of these comments contained maps, photographs of developments in and around the WSA, and a list of mining claims.

Changes from the BLM's original proposed WSA boundary resulted from public comments on private inholdings and topographic boundaries. As a result of these comments, errors in the location and extent of private inholdings were corrected and the northern boundary of the WSA was moved south to the edge of the Rimrock. All of these comments were retained and reviewed during the wilderness study.

During the public comment period on the Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District (DEA) (BLM 1983), 32 public inputs were received on the Gila Lower Box WSA. Six of the inputs expressed opposition to wilderness designation. Most of the opposing comments cited the oil and gas and mineral potential of the area as reasons for opposing wilderness designation. ASARCO expressed the opinion that undiscovered minerals might be found if the area were left open to exploration. Two industry respondents, Union Molycorp, Inc., and the Minerals Exploration Coalition, favored further reduction in the size of the area recommended suitable for wilderness to exclude existing mining claims and areas along the eastern margin that demonstrate favorable mineral potential. One comment questioned the wisdom of using public funds to acquire private land to enhance the wilderness area. The comment indicated that such acquisition amounts to buying wilderness areas.

The Phelps Dodge Corporation cited roads and mining claims in the WSA and expressed the opinion that the value of the ranch would be lowered and the livelihood of the rancher endangered by wilderness designation. Phelps Dodge speculated that wilderness designation could delay Silver City and vicinity citizens' attempts to acquire "sufficient water for simple existence in that area." Another Phelps Dodge comment stated that, "...the BLM Las Cruces District Advisory Council,...has recommended against the wilderness area in a meeting in Lordsburg. The Council's recommendation is that...the river be named an ACEC."

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The New Mexico Department of Agriculture expressed the opinion that, "...the special designation as an ACEC would be adequate in protecting the outstanding qualities...without completely removing the availability of certain range improvement techniques which would enhance the resources (i.e., wildlife habitat, vegetation, etc.)."

The majority of the inputs, 26 personal letters, favored wilderness designation for the Gila Lower Box WSA. One petition with fifteen signatures was also received. Two of the personal letters and the petition listed no reasons for supporting wilderness designation.

Many of the comments favoring wilderness designation for the Gila Lower Box reiterated the supporting reasons cited in previous comment periods (see second paragraph in this chapter). Additional comments stressed the importance of protecting what little Sonoran habitat there is in New Mexico and the remaining undisturbed riparian habitat in New Mexico. Additional supporting reasons cited the area's naturalness and scenic values.

Taking into account other forms of protection and other areas that could possibly represent the biological communities involved, the New Mexico Natural History Institute ranked the Gila Lower Box the number one priority for wilderness designation out of the nine areas discussed in the DEA in terms of natural area planning.

Fourteen of the pro-wilderness letters favored the All Wilderness Alternative over the Amended Boundary Alternative. Several of these letters included reasons for favoring the All Wilderness Alternative. One comment stated that the excluded area is natural, would add diversity to the designated wilderness, and would protect the west part of the river. The comment added that less high quality wilderness values is an inappropriate reason for boundary adjustments. Another respondent speculated that designation of the area within the amended boundary would allow future encroachment of developments around the wilderness periphery that might impact wilderness values. One comment indicated that the minor benefits of the Amended Boundary Alternative do not justify exclusion of over 3/10 of the WSA from the area recommended suitable.

Miscellaneous supporting reasons and comments included: the area is manageable, resource conflicts are not significant, and the majority of the public supports wilderness designation. One comment also indicated support for the ACEC and another agreed that the private inholdings in Cottonwood Canyon should be acquired.

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million acre wilderness proposal advocated by the New Mexico Wilderness Coalition which recommended wilderness designation for the entire WSA. Specific comments were directed to the Gila Lower Box WSA by 32 commentators with 30 supporting wilderness designation and 2 opposing it.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Gila Lower Box WSA by 38 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

Public Review of the Revised Draft EIS

No. 0100

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The Coalition proposal adds the roadless State and Federal lands to the south of the WSA and includes the western portion of the WSA. The BLM's rationale for leaving out the latter is that it 'is not part of the river canyons or side canyons and does not contribute to the value of the area as wilderness.' The Coalition disagrees with this limitation of both the size and the diversity of the area for no apparent reason."

Response: The public land south of the WSA proposed for wilderness designation in the Coalition's proposal was released from further wilderness consideration in the State Director's November 1980 New Mexico Wilderness Study Area Decisions. This land was excluded from the WSA based on a lack of naturalness. There were no appeals on the decision to exclude this land from the WSA.

The focal point of the WSA is the Gila River, the river canyon, and the tributary side canyons. It is these areas that provide the primary wilderness values to the area, that is, naturalness, outstanding opportunities for solitude and primitive and unconfined recreation, and special features of wildlife and archeological sites. The nonsuitable portions of the WSA do not contribute significantly to the wilderness values of the primary features of the WSA.

APPENDIX 37

LAS UVAS MOUNTAINS WSA (NM-030-065)

I. GENERAL DESCRIPTION

A. Location

The Las Uvas Mountains Wilderness Study Area (WSA) is located in northwestern Dona Ana County, approximately 30 miles northwest of Las Cruces, New Mexico, and 7 miles south of Hatch, New Mexico.

The Souse Springs, New Mexico, U.S. Geological Survey (USGS) topographic quadrangle covers the WSA. The map is at the 7½-minute scale.

B. Climate and Topography

The Las Uvas Mountains WSA is characterized by an arid, continental climate, with mild winters and pleasant to hot summers.

Average annual precipitation in the area is slightly less than 9 inches, however, a wide variation in annual totals is characteristic of arid climates. More than half of the total annual precipitation occurs from July to September. Rainfall during these months usually is from convective thundershowers that are commonly brief and intense.

During the summer months, daytime temperatures quite often exceed 100°F. The average monthly maximum temperature during July, the warmest month, is in the middle 90's. In January, the coldest month, average monthly minimum temperature is in the middle 20's.

Winds generally predominate from the southeast in summer and from the northwest in winter. Wind speeds are usually moderate. Spring is the windy season. Dry, gusty winds are predominantly from the west-southwest and may exceed 30 mph in the afternoons.

This WSA consists of the northwest part of the Sierra de Las Uvas. The Las Uvas Mountains are composed of tilted bedded volcanic rock with a gentle western slope and cliffs on the east side. The WSA is characterized by mesas, buttes, and canyons. Elevations within the WSA range from 4,600 feet in the northern part of the area to 6,198 feet near Little White Gap in the south.

C. Land Status

The WSA contains 11,067 acres of public land. There are 40 acres of private land within the WSA boundary. There are no State inholdings. (See Map 37-1 for land status within the WSA boundary.)

LAS UVAS MOUNTAINS WSA (NM-030-065)

Proposed Action—No Wilderness Alternative

Legend

— WSA BOUNDARY

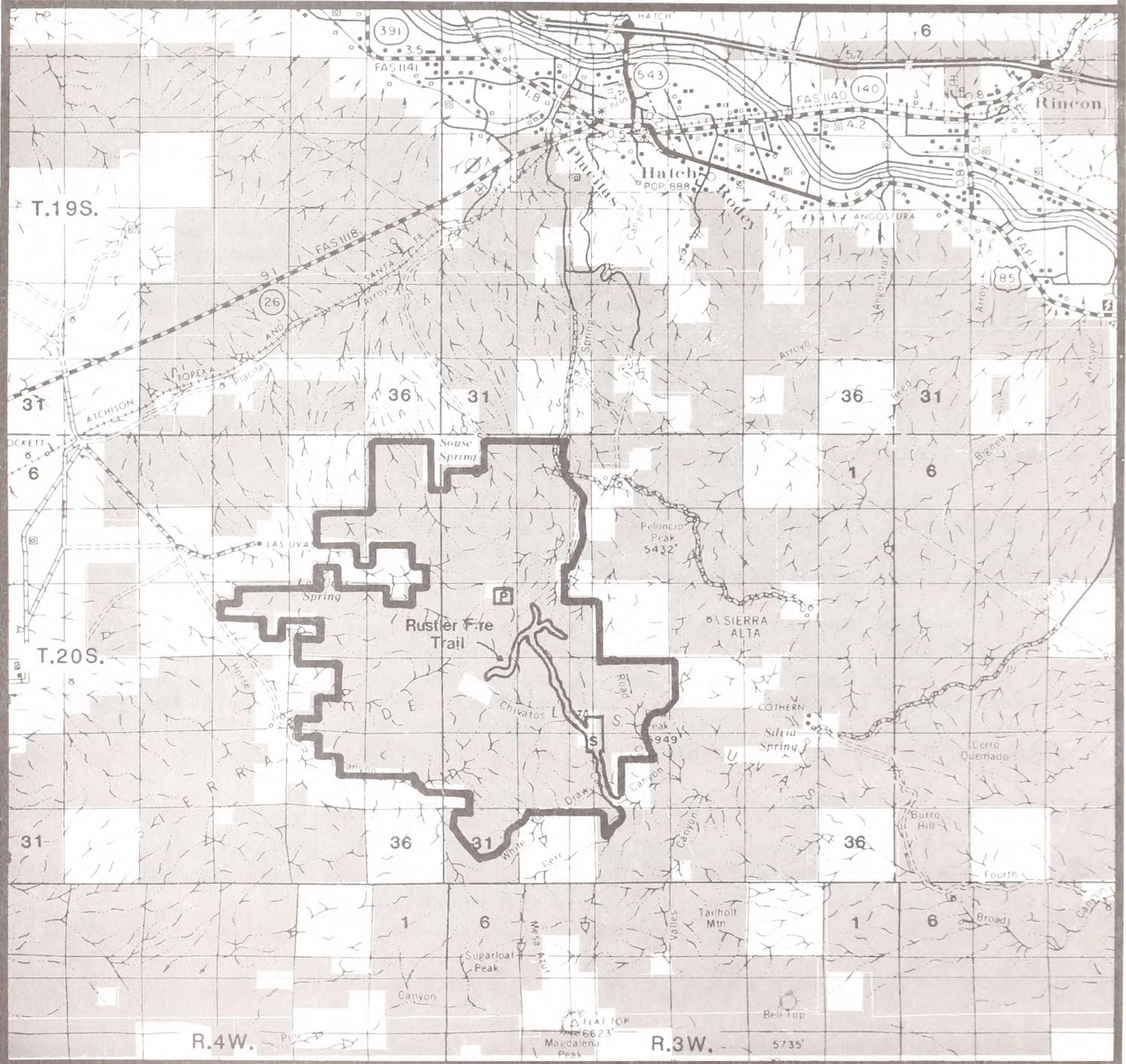
Land Status

- BLM
- P PRIVATE
- S STATE

Scale: 1/2 Inch=1 mile

MAP 37-1 LAND STATUS

Source: USDI, BLM, Las Cruces District, April, 1986.



D. Access

Legal access to the northeast boundary of the Las Uvas Mountains WSA is by way of County Road E05 which runs south off of State Highway 26, approximately $\frac{1}{2}$ mile west of Hatch.

County Road E02, which runs southeast off of State Highway 26, approximately 7 miles southwest of Hatch, terminates on private land about $\frac{1}{2}$ mile from the northwest part of the WSA. County Road E06 (Barksdale Road), which branches off of U.S. Highway 85 about 9 miles southeast of Hatch, also terminates on private land, in T. 20 S., R. 3 W., Section 28, about $\frac{1}{2}$ mile from the southeast part of the WSA. The cherry-stemmed Rustler Fire Trail road provides physical access across this parcel of private land into the center of the WSA. The White Gap Pass Road connects the ends of these two county roads and provides physical access along the southern boundary of the WSA.

E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A detailed description of those actions associated with the proposal and alternatives is provided in Table 1. The No Wilderness Alternative is the Proposed Action for the Las Uvas Mountains WSA. Portions of the WSA are impacted by the imprints of man. Recreation opportunities in the WSA are limited and are of marginal quality. The area appears to be better suited for vehicular related recreation opportunities. Special features of the area are not significant.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered
and Set Aside

Reasons for Not Including this Alternative

None for this WSA

Issues Raised
and Set Aside

Reasons for Not Conducting a Detailed Analysis

Impacts on Threatened
or Endangered species:
Night blooming cereus

Threatened and endangered species were not selected for detailed analysis because of the low potential for resource development in the WSA. U.S. Fish and Wildlife Service has concurred with BIM's finding of no affect on species Federally-listed or proposed for listing as threatened or endangered.

Alternatives Selected
for Detailed Analysis

Reasons

All Wilderness

11,067 acres were identified during the inventory as having wilderness values.

No Wilderness
(Proposed Action)

The No Action Alternative required by NEPA.

Environmental Issues Selected for Detailed Analysis

The primary issues for this WSA are the impacts on the quality of the area's wilderness values and the impacts on livestock grazing use levels. Concerns regarding livestock grazing use levels include the inconvenience to livestock operators from vehicle restrictions under wilderness designation, as well as an expected increase in vandalism and harassment to livestock if it is not designated wilderness.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	No Wilderness (Proposed Action)
<p>°MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 11,067 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>°MANAGE 11,067 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>
<p>-Attempts would be made to acquire 280 acres of private land and 560 acres of State land within and adjacent to the WSA.</p>	<p>-No special attempts would be made to acquire State and private lands.</p>
<p>-Close 4½ miles of vehicle ways which currently receive low use (less than 100 vehicles per year).</p>	<p>-Vehicle use would be allowed to continue on 4½ miles of vehicle ways. Total vehicle use is estimated to be less than 100 vehicles per year.</p>
<p>-Require permits for vehicular access to maintain 7 dirt tanks and 13½ miles of fence. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.</p>	<p>-Vehicular restrictions for maintenance of rangeland developments would not apply. Access for inspections and minor repairs would be allowed as needed without restrictions, and is estimated to be once per month.</p>
<p>-11,067 acres with low potential for energy and non-energy minerals would be closed to leasing and mining claim location. No development would be foregone due to the low mineral potential.</p>	<p>-11,067 acres with low potential for energy and non-energy minerals would be open to leasing (with no special protective stipulations) and mining claim location. No exploration or development is expected due to the low energy mineral potential.</p>
<p>-Current livestock grazing levels of approximately 10 head per section per year (1,941 AUMs) would continue.</p>	<p>-Current livestock grazing levels of approximately 10 head per section per section per year (1,941 AUMs) would continue.</p>
<p>-Vegetative collection and sales would not be allowed.</p>	<p>-5,120 acres could be opened for vegetative collection and sales of cacti, ocotillo, and yucca. An additional 2 miles of vehicle ways would be created by this activity.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues Impacts On Wilderness Values
All Wilderness (11,067 acres)	Overall existing natural appearance of the desert mesas and canyons as well as the outstanding opportunities for solitude and dayhiking would be maintained. Closure of 4½ miles of vehicle ways would improve naturalness on approximately 20 percent of the area.
No Wilderness (11,067 acres) (Proposed Action)	Use of existing and 2 miles of additional ways in connection with livestock grazing and sales of cacti, ocotillo, and yucca would diminish the quality of the area's naturalness and opportunities for solitude by 10-20 percent.



Aerial view of the Las Uvas Mountains WSA.

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The Sierra de Las Uvas is a faulted, domed uplift within a volcano-tectonic feature known as the Goodstight-Cedar Hills depression. The major stages of evolution have been late Cretaceous uplift, middle Tertiary volcanism and mountain building, and late Tertiary volcanism and rifting. Middle Tertiary volcanism produced several ashflow tuffs while late Tertiary volcanism produced eruptions of basaltic andesite.

The fault pattern within the WSA is complex. Most are high-angle normal faults trending northwest. Two major structures occur in the WSA: a northwest-trending graben near Big White Gap bordered on the southwest by the Big White Gap fault; and a north-trending graben northeast of Big White Gap bordered on the west by the Little White Gap fault and on the east by the Road Canyon fault.

B. Water

The Las Uvas Mountains WSA forms part of a divide that separates the Mimbres Basin from the southern Palomas Basin. To the northeast, drainage is into the southern Jornada del Muerto. The Mimbres Basin is a noncontributing closed basin, while the Palomas Basin and southern Jornada del Muerto contribute to the larger Rio Grande Basin.

Surface water within the WSA drains into the river basins through an ephemeral stream system. Principal drainages include Horse Canyon and tributaries to Placitas Arroyo and Arroyo Angostura. Surface flow generally occurs as a result of summer thundershowers.

Ground water moves into the Rio Grande Valley from the uplands to the valley border and then moves down the valley. Ground water is available primarily in the alluvial fill down gradient from the WSA. Significant recharge to the ground water reservoir occurs in the major canyons and arroyos during flood runoff. Ground water quality is within recommended limits for livestock and wildlife use, as established by the National Academy of Sciences (BLM 1980).

C. Soils

Two major soil types occur within the Las Uvas Mountains WSA. At higher elevations on mountain tops and steep sideslopes, soils are typically cobbly and shallow over basalt bedrock. The soils are interspersed between areas of rock outcroppings. Around the mountain footslopes in the northern part of the WSA, the soils are gravelly and typically have a cemented caliche layer within 30 inches of the surface.

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D. Vegetation

1. General

The vegetation and associated range sites within the Las Uvas Mountains WSA consist of two major types:

<u>Vegetation Type</u>	<u>Range Site</u>	<u>Federal Acres</u>
Grass	Mountains	9,276
Creosote	Gravelly	1,791

The Las Uvas Mountains are predominantly covered with grass species consisting of black grama, fluffgrass, tobosa, and other gramas. Other associated species, occurring mainly in protected areas and on north facing slopes, are juniper, snakeweed, sotol, creosote, Mormon tea, and barrel cactus.

Creosote is the dominant vegetation on the gravelly slopes that surround the mountain area. Other associated shrub species are mariola, mesquite, and snakeweed. Grasses include black grama, bush muhly, fluffgrass, tobosa, and other gramas.

2. Rare Species

The following species was identified and located in or near the WSA (NMSHP and USFWS 1982; revised 1986).

Species: Cereus greggii - night blooming cereus

Status: Listed as endangered by the State of New Mexico; candidate for Federal listing.

Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

E. Wildlife

The majority of the Las Uvas Mountains WSA is a grass mountain habitat site. On northern slopes and in canyons, there are junipers and shrubs such as oak and Apacheplume. This variation in the vegetation allows for more diversity in the wildlife community than would otherwise be expected.

An abundance of rimrock along the mesas in the area provides raptor nest sites and habitat for other rock-dwelling wildlife. Golden eagles are common. Other common species dependent on this habitat are banded rock rattlesnakes and rock squirrels.

There are good populations of both scaled and Gambel's quail (BLM IHICS Data 1979). A resident mule deer herd is found in the Las Uvas Mountains, but the New Mexico Department of Game and Fish only estimates their numbers at one-half deer per section. The optimum numbers, according to the same estimate, would be three deer per section.

F. Visual

The Las Uvas Mountains have a Class B (moderate) scenic quality rating. The Las Uvas Mountains are characterized by mesas, buttes, and canyons. Landforms tilt to the north and colors are typically light and dark brown. Vegetation colors are light browns and dark greens. Canyon bottoms support an array of prickly pear, other cacti, creosote, grasses, mesquite, yucca, and sotol. At higher elevations, juniper trees dot the landscape and contrast with surrounding grasses.

Portions of the WSA are in three Visual Resource Management (VRM) Classes as follows: Class II--5,849 acres, Class III--609 acres, and Class IV--4,609 acres.

G. Cultural

There are no known historic or prehistoric sites in the Las Uvas Mountains WSA; however, there has been no survey. Based on topography and water sources rather than verifiable archaeological surveys, this WSA has a low cultural resources potential.

H. Air

Generally, the quality of air within the Las Uvas Mountains WSA is good. The air quality in the WSA does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

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III. EXISTING AND POTENTIAL USES

A. Mineral Resources

1. Energy Minerals (Geothermal)

As of April 15, 1986, there were no mineral leases in the WSA.

There are no known geothermal occurrences in the WSA. The only favorable geologic indicators are the Tertiary igneous history of the Sierra de las Uvas, the location of the WSA within the Rio Grande rift, and the presence of several fault zones. Without direct geothermal evidence or other favorable geothermal indicators, the WSA is classified as having low potential for geothermal resources.

2. Nonenergy Minerals (Zeolites)

As of April 15, 1986, there were no mining claims recorded with BLM in the WSA.

Zeolite minerals occur in tuffs of the Bell Top formation in the Cedar Hills, about 10 miles southeast of the WSA. The tuffs of the Bell Top formation in the Cedar Hills and the Sierra de Las Uvas have a similar geologic history, so the occurrence of zeolites in the WSA is at least a possibility. For this reason, the WSA is classified as having low potential for zeolite resources.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE LAS UVAS MOUNTAINS WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*
Energy Minerals			
Geothermal	Tertiary volcanics; Rio Grande rift; fault zones	Low	--
Nonenergy Minerals			
Zeolites	Tuffs of the Bell Top formation; zeolite occurrences in the Cedar Hills	Low	--

Note: *Acreage was not calculated for areas with low potential.

B. Watershed

Water use within the Las Uvas Mountains WSA is primarily by livestock and wildlife. There are six dirt tanks inside the WSA that utilize surface runoff (see Chapter III, Livestock Grazing). Additionally, there is a water spreading system comprised of a series of small rock dikes within the northern part of the WSA.

C. Livestock Grazing

1. Allotments

Parts of four grazing allotments are within the Las Uvas Mountains WSA. Steep slopes on the east side make part of this WSA inaccessible to livestock grazing. Licensed grazing use on public land includes cattle and a few horses. The W. Cothern allotment (3015) is under an implemented Allotment Management Plan (AMP).

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
J. Bustamante 3010	3,465	252	1,408	103	41%
Sierra Alta Ranch 3012	6,695	1,380	567	110	8%
W. Cothern 3015	14,654	3,252	2,671	585	18%
Las Uvas Ranch 3031	17,289	3,089	6,421	1,143	37%
TOTAL			11,067	1,941	

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Type of Development	Location
J. Bustamante 3010	erosion control contouring	T. 20 S., R. 3 W., Sec. 6
Sierra Alta Ranch 3012	2 dirt tanks, erosion control contouring	T. 20 S., R. 3 W., Sec. 5
W. Cothern 3015	interior fence dirt tank	3 miles T. 20 S., R. 3 W., Sec. 20
Las Uvas Ranch 3031	dirt tank dirt tank 2 dirt tanks interior fence	T. 20 S., R. 4 W., Sec. 23 T. 20 S., R. 4 W., Sec. 20 T. 20 S., R. 3 W., Sec. 8 1 mile

Boundary Fences:

Cothern 3015 and Las Uvas Ranch 3031	3 miles
Las Uvas Ranch 3031 and Sierra Alta Ranch 3012	1 mile
Las Uvas Ranch 3031 and Bustamante 3010	3 miles
Bustamante 3010 and Sierra Alta Ranch 3012	2½ miles

Note: ^{a/}Information shown in tables reflects only Federal acres and animal unit months (AUMs), and rangeland developments on public land.

D. Recreation

Recreation activities in and around the Las Uvas Mountains WSA generally require motorized use. They are primarily rockhounding, sightseeing, hunting, and off-road vehicle (ORV) use. Rockhounding for agate nodules occurs throughout the Las Uvas Mountains. Sightseeing is usually associated with ORV use. The White Gap Pass Road, which forms the southern boundary of the WSA, provides a particularly scenic and challenging route through the mountains. The Rustler Fire Trail road, cherry-stemmed into the eastern part of the WSA, provides a challenge for the ORV enthusiast and access for hunters.

The Las Uvas Management Framework Plan (MFP) (BLM 1976) provides general guidance for the management of the Las Uvas Mountain range in regards to recreation. The MFP states that the Las Uvas Mountains will be managed "in a manner which will perpetuate their relatively unintruded, remote, and scenic characteristics." All future developments are to be designed and constructed to avoid impairment of scenic and recreation values.

Primitive recreation opportunities are described in Chapter IV, Primitive and Unconfined Recreation.

E. Realty Actions

A temporary State Aid Withdrawal was located within the Las Uvas Mountains WSA. The State of New Mexico completed their land selection and the withdrawal was reviewed by the BLM. The withdrawal was revoked effective October 7, 1983.

The Village of Hatch's right-of-way (ROW) for water facilities within the WSA was relinquished and the ROW cancelled October 12, 1984.

F. Wildlife

There are no existing wildlife developments in the Las Uvas Mountains WSA, but a deer Habitat Management Plan is proposed for the entire mountain range in the Southern Rio Grande MFP (BLM 1981). New waters and vegetation treatments could be proposed in this plan.

G. Vegetative Products

An area of approximately 5,120 acres in the southeast part of the Las Uvas Mountains WSA, around Chivato Canyon, was identified in the Southern Rio Grande MFP (BLM 1981) as a potential vegetative collection and sale area for cacti, ocotillo, and yucca.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The Las Uvas Mountains WSA generally appears natural. Human imprints affecting the naturalness of the WSA include dirt tanks, vehicle ways, and the cherry-stemmed Rustler Fire Trail road.

Seven dirt tanks are within the WSA. The tanks are located on the southwest, south, east, and northeast edges of the WSA less than $\frac{1}{2}$ mile from the boundary. All are accessible by vehicle trails.

The naturalness in the northeast and east parts of the WSA is moderately impacted where most of the dirt tanks are located. However, due to their locations on the edges of the WSA and topographic screening, the dirt tanks are substantially unnoticeable when considering the overall naturalness of the WSA. The fences also have an insignificant effect on naturalness because they are constructed of materials that generally blend in with the landscape.

The access road to Chivato Tank in T. 20 S., R. 3 W., Section 20, SE $\frac{1}{4}$, and the tank itself are within the cherry-stem that includes the Rustler Fire Trail. This part of the road and the Tank are located in the bottom of a canyon and do not greatly impact naturalness. The Rustler Fire Trail has a somewhat more significant impact on naturalness. The Trail was constructed by the BLM in 1968 and maintained by the BLM in 1972-1974, using heavy machinery. The rancher subsequently assumed maintenance. The Trail runs north up Chivato Canyon from Chivato Tank, climbing the steep face of a bluff. It fans out into three separate dead-end trails on top. There are approximately 4 miles of the trail cherry-stemmed in the WSA. The Trail is visually noticeable on top of the bluff and when looking north up Chivato Canyon from Chivato Tank. The Trail locally impacts naturalness but does not degrade the overall naturalness of the Las Uvas Mountains WSA.

b. Solitude

The Las Uvas Mountains WSA provides outstanding opportunities for solitude. The entire WSA contains rugged canyon and mesa type topography which provides plenty of opportunities to escape the sights and sounds of other visitors. The size and shape of the WSA and moderate vegetative screening provided by scattered juniper enhance these opportunities.

c. Primitive and Unconfined Recreation

The Las Uvas Mountains WSA provides opportunities for hiking, backpacking, horseback riding, and hunting. The area provides outstanding opportunities for day hiking. The area is not large enough for

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an extended backpacking trip. Horseback riding is somewhat limited due to approximately 13½ miles of grazing allotment boundary and interior pasture fences within the WSA.

Although opportunities are available, the WSA does not offer a wide diversity of high quality primitive recreation opportunities.

2. Special Features

The Las Uvas Mountains WSA provides habitat for the night blooming cereus, a plant species listed as endangered by the State of New Mexico and a candidate for Federal listing.

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the Las Uvas Mountains WSA as being in the Chihuahuan Desert Province with a potential natural vegetation of grama-tobosa shrubsteppe.

The general nature of the Bailey-Kuchler System fails to show the specific vegetation types in the WSA. Further refinement of the system shows the following vegetation types in the WSA:

<u>Vegetation Type</u>	<u>Acres</u>
grama-tobosa shrubsteppe	9,276
creosote	1,791

b. Distance From Population Centers

The Las Uvas Mountains WSA is approximately 2 hours driving time from El Paso, Texas; 1 hour from Las Cruces, New Mexico; 3 hours from Albuquerque, New Mexico; 5 hours from Tucson, Arizona; and 7 hours from Phoenix, Arizona.

B. Manageability

Two factors affect the capability of the Las Uvas Mountains WSA to be managed as wilderness: land status patterns and the cherry-stemmed Rustler Fire Trail.

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 11,067 acres of public land within the Las Uvas Mountains WSA would be recommended suitable for wilderness designation. (See Map 37-1 for location of the WSA boundary.)

If designated wilderness, the existing uses and activities in the area and the potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the Wilderness Management Policy (BLM 1981).

1. Impacts on Wilderness Values

Wilderness designation would preserve the existing naturalness of the mesas and canyons. The area would be specifically managed to maintain the existing natural appearance and outstanding opportunities for solitude and dayhiking. The area's special feature, habitat for the night-blooming cereus would also be maintained.

Las Uvas Mountains WSA is within 5 miles of the community of Hatch and is a focal point of recreation for local residents. As noted in Chapter III, much of the recreation use in Las Uvas Mountains is vehicle related. Closing 4½ miles of vehicle trails would preclude ORV use estimated at up to 100 vehicles per year and improve naturalness and opportunities for solitude on approximately 20 percent of the WSA. This restriction on mechanized access and associated disturbance would protect and enhance the area's naturalness and outstanding opportunities for solitude.

Conclusion. Under the All Wilderness Alternative, the area's existing naturalness and outstanding opportunities for solitude would be preserved in the long-term.

2. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 10 head per section per year (1,941 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 13½ miles of fence and 7 dirt tanks. New rangeland facilities are not planned. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience

to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness (Proposed Action)

Under the No Wilderness Alternative, the entire 11,067 acres of public land in the Las Uvas Mountains WSA would be recommended nonsuitable for wilderness designation.

If the WSA is not designated wilderness, existing and future uses would be managed under the Southern Rio Grande MFP (BLM 1982) and the Las Cruces/Lordsburg MFP Amendment (BLM 1984). These documents prescribe livestock grazing and energy minerals leasing as the primary resource uses of the area. In addition, 5,120 acres would be opened for vegetative sales of cacti, ocotillo, and yucca. No rangeland development projects are proposed for the WSA. There are no energy mineral leases in the area and no exploration or development is projected due to the low energy mineral potential of the area.

In the 11,067 acres not designated as wilderness, unavoidable adverse effects would result from future surface disturbance activities. Cumulative short-term consumptive uses of this land would lead to long-term degradation of wilderness values. Nondesignation of 11,067 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

In the short-term, the natural character of the mesas and canyons as well as the opportunities to experience solitude would be maintained. In the long-term, the sale of cacti, ocotillo, and yucca plants within 5,120 acres of the WSA would result in a 10-20 percent decline in the quality of naturalness. Vehicle use on the 4½ miles of existing vehicle ways and the 2 miles of newly created ways would reduce solitude opportunities by the same 10-20 percent.

Conclusion. Wilderness values would be maintained in the short-term, but would diminish in quality by 10-20 percent in the long-term as a result of continued vehicle access and the sale of cacti, ocotillo, and yucca plants in the WSA.

2. Impacts on Livestock Grazing Use Levels

Livestock grazing use would continue at current levels, approximately 10 head per section per year (1,941 AUMs).

Motorized access on 4½ miles of existing vehicle trails could continue. All rangeland developments could be checked and maintained on a convenience basis using motorized equipment.

Conclusion. Under the No Wilderness Alternative, there would be no impacts on livestock grazing use levels.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Personal letters, form letters, and petitions were received on the Las Uvas Mountains unit during both the public comment periods on the New Mexico Wilderness Review Initial Inventory Decision (BLM 1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980).

In the March 1980 WSA Proposals, the BLM proposed to drop this area. This recommendation was based on the number and location of imprints, vehicle trails and roads, and the convoluted configuration of the intensive inventory unit.

Numerous personal contacts made during the public review period and the analysis of public comments revealed controversy over the BLM's recommendation to drop the entire unit. The application of the road definition to the Rustler Fire Trail and the BLM's evaluation of wilderness characteristics in the west half of the unit were questioned. Comments indicated that an area of approximately 10,000 acres surrounding the Fire Trail should be a WSA.

The final WSA decision rested largely with the application of the road definition to the Rustler Fire Trail and a reevaluation of the Trail's effects on apparent naturalness and outstanding opportunities. Based on public comments and additional field checks, the BLM determined that the Rustler Fire Trail did not meet the road definition and that an area of 11,067 acres in the western part of the intensive inventory unit met the basic wilderness criteria. This area was designated the Las Uvas Mountains WSA in the November 1980 New Mexico Wilderness Study Area Decisions. The decision that the Rustler Fire Trail did not meet the road definition was subsequently appealed to the Interior Board of Land Appeals (IBLA) by Wilford Cothern, the grazing permittee in the affected portion of the Las Uvas Mountains WSA.

The IBLA ruled on the appeal of the Rustler Fire Trail decision on September 8, 1983. The IBLA ruling indicated that based on the present state of the record, it was not possible to determine whether the Rustler Fire Trail was correctly found to be a vehicle trail rather than a road. The case was remanded to BLM for reconsideration and preparation of a new decision more responsive to the appellant's allegations. After reevaluation of information provided by the appellant, BLM employees, and BLM records, it was determined that the Rustler Fire Trail is a road as defined in the Wilderness Inventory Handbook (BLM 1978) and Organic Act Directive 78-61, Change 2. The Rustler Fire Trail was, therefore, cherry-stemmed out of the designated Las Uvas Mountains WSA.

During the public comment period on the Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District (BLM 1983), 17 personal letters were received on the Las Uvas Mountains WSA. Comments in the ten letters favoring wilderness designation generally related to wilderness values, supplemental values, size, manageability, and resource conflicts.

Many of the inputs listed basic wilderness values and supplemental values, such as diverse communities of plants and animals, as reasons for supporting wilderness designation of the WSA. Two comments favored designation of the entire area (11,067 acres) while another comment indicated support for designation of an area of 15,000 acres.

Manageability comments included expressions of disagreement with the use of manageability conflicts to support a nonwilderness recommendation and the general statement that the area is manageable. Comments also suggested that land exchanges with the State and elimination of off-road vehicle (ORV) access would enhance manageability.

Other comments stated that resource conflicts are not significant, wilderness is not something to be designated when there are no other potential uses, and the area should be wilderness regardless of pressure from ORV users. Additional comments supporting wilderness designation noted that the Las Uvas Mountains WSA is close to urban population centers and offers easy access.

Seven personal letters were received that indicated opposition to wilderness designation for the Las Uvas Mountains WSA. Two of the letters gave no reasons and one specifically agreed with the Draft Environmental Assessment's Recommended Action of No Action/No Wilderness. Comments submitted by the minerals industry opposed wilderness designation because the area has potential for zeolites and because "oil, gas, and geothermal occurrences within the WSA are probable due to the existence of these types of exploration wells located northeast and southeast of the WSA."

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico Wilderness Coalition, which recommended wilderness designation for the entire WSA. Twelve commentators specifically addressed the Las Uvas Mountains WSA and all 12 supported wilderness designation.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Las Uvas Mountains WSA by 226 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

Public Review of the Revised Draft EIS

No. 0100-1

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The BLM document also states that Las Uvas Mountains WSA 'generally appears natural'. With respect to the six dirt tanks located within the WSA, BLM's assessment is that 'due to their locations on the edges of the WSA and topographic screening, the

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No. 0100-1 (concluded)

dirt tanks are substantially unnoticeable when considering the overall naturalness of the WSA'. The only substantial impact to the area is the cherry-stemmed Rustler Fire Trail, of which the BLM says that it 'locally impacts naturalness but does not degrade the overall naturalness of the Las Uvas Mountains WSA'.

Response: Naturalness in the northeast and eastern portions of the WSA is moderately impacted where most of the dirt tanks are located. The Rustler Fire Trail impacts naturalness in the east central portion of the WSA. The impacts of the Trail and the dirt tanks do affect the quality of the WSA's naturalness.

No. 0100-2

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: ". . . the Coalition recommends both Robledo Mountains WSA and Las Uvas Mountains WSA for wilderness designation. Furthermore, we recommend a major expansion of the boundaries of these areas to include outstanding wildlands adjacent to the WSAs. . . the Coalition proposal includes the Rough and Ready Hills, the Cedar Hills, a portion of the Magdalena Mountains, and the wide open plains between."

Response: Much of the area outside the Las Uvas and Robledo Mountain WSAs proposed by the Coalition for designation as wilderness was dropped by the decisions on the initial and intensive inventories. Other areas between the Las Uvas and Robledo Mountains were dropped in the New Mexico Wilderness Study Area Decisions in 1980. There were no appeals of any of these decisions nor were there any appeals requesting BLM to designate larger WSAs.

* * * * *

No. 0150

Name(s): Patrick Smith

Comment: "With regard to your proposal to open 1500 acres of this area to 'cacti, ocotillo and yucca ' harvesting: How do you intend to protect the population of night-blooming cereus in the area? Does it not appear in the (hopefully well defined) collection area? Or will supervision be intensive enough to prevent its being taken?"

No. 0150 (concluded)

Response: Before a vegetative collection area is designated, the proposal is analyzed through an environmental assessment. Part of the analysis process includes a survey for threatened and endangered species to ensure that such species either do not occur in the area, or would not be damaged or destroyed as a result of the proposal. In addition, when the permits are issued, the particular species which may be collected are specified. Monitoring of the area to ensure compliance will be a part of the proposal.



APPENDIX 38

ORGAN MOUNTAINS WSA (NM-030-074)

I. GENERAL DESCRIPTION

A. Location

The Organ Mountains Wilderness Study Area (WSA) lies in eastern Dona Ana County, approximately 15 miles east-northeast of Las Cruces, New Mexico.

The U.S. Geological Survey (USGS) topographic maps covering the WSA are the Organ and Organ Peak, New Mexico quadrangles. Both of these maps are at the 7½-minute scale.

B. Climate and Topography

The Organ Mountain WSA is characterized by a semiarid, continental climate. Significant differences in climatic conditions are associated with changes in elevation and exposure.

Average annual precipitation in the area, above 6,000 feet, is close to 16 inches, nearly double the total in the valley. Maximum precipitation occurs in the summer in both the mountains and the valley, primarily from convective thundershowers. A slight secondary maximum occurs in the winter with some light snowfall common at higher elevations.

During the summer months, daytime temperatures quite often exceed 100°F at elevations below 5,000 feet. Average monthly maximum temperature during July at higher elevations is in the mid 80's. In January, the coldest month, average monthly minimum temperature is in the low 20's. Temperatures vary markedly depending on exposure, with the northeast aspect being considerably cooler.

Wind speeds are usually moderate, although relatively strong winds often accompany frontal activities and thundershowers. Spring is the windy season and gusty winds may exceed 30 mph in the afternoons. Winds generally predominate from the southeast in summer and from the northwest in winter, but local surface wind directions will vary greatly because of local topography.

The Organ Mountains are a north-south trending fault block mountain range characterized by extremely rugged terrain with a multitude of steep-sided crevices, canyons, and spires. The spires are the most striking features of the Organ Mountains. At a distance, they resemble the giant pipes of a stupendous organ. Elevations within the WSA range from about 5,000 feet along the pediments up to 8,010 feet. The towering and precipitous mountain mass of the Organ Mountains is bound by pediments that are covered with extensive block and boulder laden alluvial cone-fans. These pediments and fans are variably incised by water courses headcutting into the mountains.

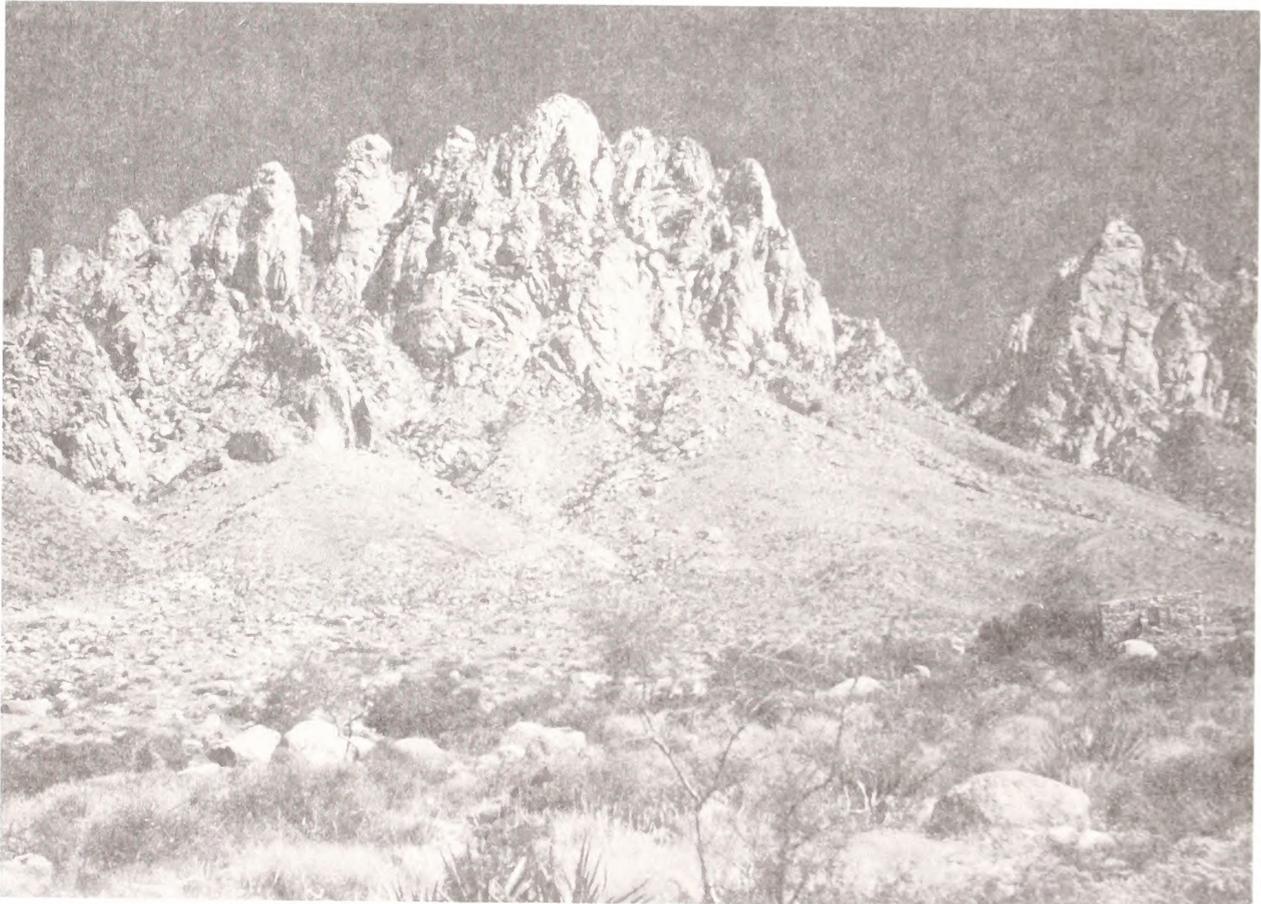
ORGAN MOUNTAINS

C. Land Status

The Organ Mountains WSA contains 7,283 acres of public land including 139 acres of split-estate (Federal surface and private subsurface). There are no private inholdings within the boundary of the WSA. (See Map 38-1 for land status.)

D. Access

Legal access to the Organ Mountains WSA is available along the east and west boundaries. The Aguirre Spring Campground access road, which forms most of the eastern boundary of the WSA, is a paved BLM road running south off of U.S. Highway 70, about 3½ miles east of the town of Organ. On the west side of the WSA, a county road runs south from U.S. Highway 70, about 1 mile west of Organ and forms part of the WSA's western boundary.



The Rabbit Ears near Mine House Spring.

ORGAN MOUNTAINS WSA (NM-030-074)
Proposed Action-All Wilderness Alternative

MAP 38-1
LAND STATUS

Legend

- WSA BOUNDARY
- - - AMENDED BOUNDARY

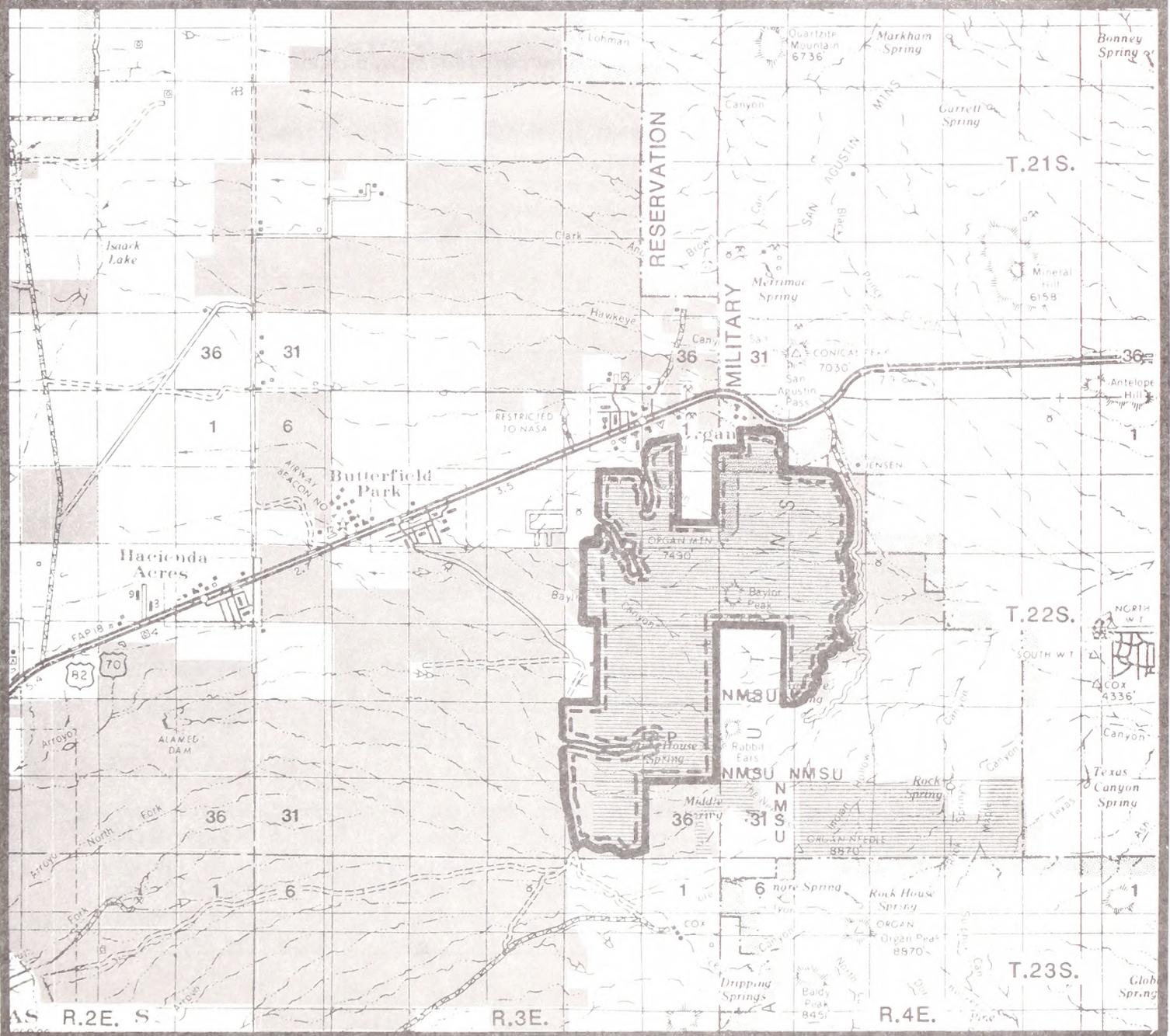
Land Status

- BLM
- P PRIVATE
- S STATE
- BLM SURFACE/NON BLM SUBSURFACE

 Organ Mtns. Scenic ACEC

Scale: 1/2 inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis, as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A description of those actions associated with the proposal and alternatives is provided in Table 1. The proposed action for the Organ Mountains WSA is the All Wilderness Alternative. The WSA has high quality wilderness values including naturalness, excellent opportunities for solitude, a diversity of outstanding recreational opportunities, and high quality scenic features.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Including this Alternative
Enlarged WSA Boundary	During public comment on the Revised Draft EIS, several commentators suggested enlarging the WSA to include the NMSU lands, the Indian Hollow-Sugar Loaf Peak area, and portions of Fort Bliss Military reservation. The NMSU and Fort Bliss lands are not public land subject to BLM's wilderness review, and therefore cannot be included as part of the WSA. The Indian Hollow-Sugar Loaf Peak area is public land, but is less than 5,000 acres and is not contiguous to the WSA. This area could be studied for wilderness designation under Section 202 of the Federal Land Policy and Management Act during the Resource Management Planning process.

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on Threatened or Endangered Species: American peregrine falcon; Trans Pecos Rat Snake; Night blooming cereus; Organ Mountain coryphantha	The U.S. Fish and Wildlife Service has concurred with BLM's finding of no affect on species Federally-listed or proposed for listing as threatened or endangered. Threatened and endangered species are recognized as a special feature of the wilderness and are addressed as part of the discussion of wilderness.

Alternatives Selected for Detailed Analysis	Reasons
All Wilderness (Proposed Action)	7,283 acres were identified during the inventory as having wilderness values.
Amended Boundary	This alternative was formulated to exclude split-estate land (139 acres) from that portion of the WSA recommended suitable for wilderness designation. This alternative would eliminate resource conflicts arising from exploration of the State-owned mineral estate.
No Wilderness	The No Action Alternative required by NFPA.

Environmental Issues Selected for Detailed Analysis

Primary issues identified for the Organ Mountains WSA are impacts on the quality of the area's wilderness values including special features, impacts on livestock grazing use levels, and the impacts on exploration and development of nonenergy mineral resources. These issues were generally discussed in terms of the value of the Organ Mountains for wilderness versus the value of the area's mineral resources.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness (Proposed Action)	Amended Boundary	No Wilderness
<p>*MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 7,283 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Attempts would be made to acquire 605 acres of private land, and 139 acres of State-owned mineral estate.</p> <p>-Close 1 mile of vehicle ways which currently receives low use (less than 100 vehicles per year).</p> <p>-Permits would be required for authorization to maintain 5 springs, 1 dirt tank, and 8 miles of fence with mechanized equipment. No more than one trip per year is anticipated for vehicle use. Casual vehicle use for inspections and minor repairs of rangeland developments would be precluded.</p> <p>-7,283 acres would be closed to energy minerals leasing and mining claim location including 200 acres of high potential and 3,600 acres of moderate potential for base and precious metals and 100 acres of high potential for fluor spar.</p> <p>-Development activities for base and precious metals or fluor spar could occur on valid mining claims. Development activities could include construction of drill pads, drilling test holes, and construction of up to 2 miles of new road resulting in approximately 20 acres of surface disturbance.</p> <p>-Reasonable access to 139 acres of non-Federal mineral estate would be permitted with consideration for protecting wilderness values.</p> <p>-Current livestock grazing use levels of approximately 6 head per section per year (1,003 ALMs) continue.</p> <p>-Desert bighorn sheep could be transplanted in the area.</p> <p>-The annual Baylor Pass Run would not be permitted.</p>	<p>*MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 7,144 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Attempts would be made to acquire 605 acres of private land.</p> <p>-Close 1 mile of vehicle ways which currently receives low use (less than 100 vehicles per year).</p> <p>-Permits would be required for authorization to maintain 5 springs, 1 dirt tank, and 8 miles of fence with mechanized equipment. No more than one trip per year is anticipated for vehicle use. Casual vehicle use for inspections and minor repairs of rangeland developments would be precluded.</p> <p>-7,144 acres would be closed to energy minerals leasing and mining claim location, including 200 acres of high potential and 3,600 acres of moderate potential for base and precious metals and 100 acres of high potential for fluor spar.</p> <p>-Development activities for base and precious metals or fluor spar could occur on valid mining claims. Development activities could include construction of drill pads, drilling test holes, and construction of up to 2 miles of new road resulting in approximately 20 acres of surface disturbance.</p> <p>-The annual Baylor Pass Run would not be permitted.</p> <p>*MANAGE 139 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Access, exploration, and development of 139 acres of privately-owned mineral estate with moderate potential for base and precious metals would not be restricted.</p>	<p>*MANAGE 7,283 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-6,690 acres within the WSA would be managed as part of the 8,947-acre Organ Mountain Scenic Area of Critical Environmental Concern. This designation resulted from approval of the Las Cruces/Lordsburg Management Framework Plan Amendment in 1984.</p> <p>-No special attempts would be made to acquire private land.</p> <p>-Cooperative agreements would be sought to manage adjacent New Mexico State University Land and State Land as Visual Resource Management Class I.</p> <p>-Vehicle use on existing roads and trails would be allowed to continue. Total vehicle use is estimated to be less than 100 vehicles per year.</p> <p>-Restrictions on vehicular access for maintenance of rangeland developments would not apply. Maintenance would be done as needed. Vehicle trips would average about 1 per month.</p> <p>-1,479 acres would be closed to energy minerals leasing.</p> <p>-5,211 acres would be open for energy minerals leasing with a No Surface Occupancy stipulation.</p> <p>-6,690 acres would be withdrawn from locatable and saleable mineral entry subject to valid existing rights. This would include 200 acres of high potential and 3,107 acres of moderate potential for base and precious metals, and 100 acres of high potential for fluor spar potential.</p> <p>-Exploration and development activities for base and precious metals or fluor spar could occur on valid mining claims. Development activities could include construction of drill pads, drilling test holes, and construction of up to 2 miles of new road resulting in approximately 20 acres of surface disturbance.</p> <p>-Access to 139 acres of non-Federal mineral estate would not be restricted. No new rights-of-way would be authorized.</p> <p>-Current livestock grazing use levels of approximately 6 head per section per year (1,003 ALMs) would continue.</p> <p>-Desert bighorn sheep could be transplanted in the area.</p> <p>-The annual Baylor Pass Run could continue on the Baylor Pass Trail.</p> <p>-593 acres not included in the ACEC would be leased for energy minerals with a protective stipulation for recreation values.</p> <p>-593 acres not included in the ACEC of moderate potential for base and precious metals would be open to exploration and development. A low level of exploration of up to a total of 3 drill holes is projected.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues	
	Impacts On Exploration and Development of Nonenergy Mineral	Impacts On Wilderness Values
All Wilderness (7,283 acres) (Proposed Action)	Opportunities for exploration and development activities would be forgone in the following areas: 200 acres with high potential and 3,600 acres with moderate potential for base and precious metals, and 100 acres with high potential for fluorspar.	The area's high quality natural values, outstanding opportunities for solitude and primitive and unconfined recreation, and special ecological and scenic features would be maintained. Naturalness, opportunities for solitude, and scenic features would be degraded on approximately 30 percent of the areas as a result of exploration and development of valid mining claims. Mineral exploration and development could include construction of drill pads, drilling test holes, and construction of up to 2 miles of new roads resulting in approximately 20 acres of surface disturbance.
Amended Boundary (7,144 acres suitable; 139 acres nonsuitable)	Same as All Wilderness Alternative, except that access to 139 acres of privately-owned mineral estate with moderate potential for base and precious metals would not be restricted.	Same as All Wilderness Alternative. Naturalness would be affected on 139 acres released; however, opportunities for solitude and primitive recreation in the area are not outstanding. No overall impacts on wilderness values would result.
No Wilderness (7,283 acres)	No impact.	Management as an ACEC would generally maintain natural values, outstanding opportunities for solitude and primitive recreation, and special ecological and scenic features on 6,690 acres in the short-term. Such designation would not provide long-term protection and wilderness values would be degraded. Wilderness values would be degraded on approximately 30 percent of the area if valid mining claims are developed. Exploration for base and precious metals would adversely affect wilderness values on 593 acres not included in the ACEC. Up to 1 mile of new road would be constructed and approximately 2 acres would be disturbed by the drill holes. This would degrade the quality of naturalness on 10 percent of the area

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The Organ batholith, emplaced during the Tertiary period, is the dominant feature in the Organ Mountains, both geologically and visually. The batholith consists mainly of quartz monzonite. Precambrian granite is exposed in the northwestern portion of the WSA. Other intrusive rocks in the WSA include rhyolite porphyry, diorite porphyry, andesite porphyry, and latite porphyry. The Tertiary Orejon andesite, extruded during a period of volcanism predating the batholith, is exposed in several areas in the western portion of the WSA. Paleozoic marine sedimentary rocks crop out along the western flank of the Organ Mountains in a narrow, north-trending zone. Major formations include the Permian Hueco formation, the Pennsylvanian Panther Seep formation and Lead Camp limestone, and the Silurian Fusselman Dolomite.

High angle normal faults and small thrust faults which predate the emplacement of the batholith, are present along the western flank of the Organ Mountains. The Torpedo-Bennett fault zone in the northwestern portion of the WSA is an area of known mineral deposits.

B. Water

The Organ Mountains WSA forms part of a divide between the southern Tularosa Basin and the Mesilla Basin. The Tularosa drainage is one of several closed basins within central New Mexico. The Mesilla Basin contributes to the larger Rio Grande Basin.

Surface water within the WSA drains into both basins through an ephemeral stream system. Principal drainages into the Mesilla Basin include Blair and Baylor Canyons. Tributaries to Anvil Creek on the east side contribute to the Tularosa Basin. Surface flow generally occurs as a result of summer thundershowers.

Ground water movement on the west side of the Organ Mountains is towards the Rio Grande Valley. In the Tularosa Basin, movement is generally eastward. Ground water is available on the alluvial fans in both basins, but the material thins to a shallow bedrock adjacent to the mountain front. Recharge to the ground water reservoir occurs mainly in the canyons and arroyos from infiltration of flood runoff. Ground water quality is within recommended limits for livestock and wildlife use, as established by the National Academy of Sciences (BLM 1980).

C. Soils

Three major soil types occur within the Organ Mountains WSA. Soils on steep slopes at higher elevations typically are very cobbly and stony and range from shallow to moderately deep. These soils are interspersed between areas of rock outcropping on ridges, ledges, and cliffs. The east footslopes of the Organ Mountains are characterized by low ridges and broad alluvial fans. The soils, formed from granitic bedrock

types, are very gravelly to cobbly and typically are shallow on ridgetops and deeper on the less sloping stable areas. On the western footslopes of the mountains, the soils are formed from mixed igneous parent materials and typically have a gravelly surface and cobbly subsurface layer.

D. Vegetation

1. General

Three life zones occur in the Organ Mountains. They consist of the Transition Zone from 7,000 feet to the peaks, the Upper Sonoran from 4,500 feet to 8,000 feet, and the Lower Sonoran below 5,000 feet. The vegetation and associated range sites within the Organ Mountains WSA consist of four major types:

Vegetation Type	Range Site	Federal Acres
Ponderosa pine	Mountain tops	163
Pinyon-juniper-mixed mountain shrub	Mountains	3,362
Mixed desert shrub	Gravelly loam	3,640
Mixed desert shrub	Sandy	118

Ponderosa pine is the dominant vegetation on the mountain tops in the Transition Zone. Pinyon-juniper trees occur at slightly lower elevations and in protected canyons in the Upper Sonoran Zone. Associated shrub species are diverse and varied. Shrubs on these mountain slopes include mountain mahogany, snakeweed, Mormon tea, oak, sotol, Apacheplume, sumac, tarbush, spicebush, creosote, mesquite, mariola, mimosa, and acacia. Many grass species are present in small quantities. Grama grasses are the most prevalent.

In the Lower Sonoran Life Zone, mixed desert shrub species are the dominant vegetation on the gravelly loam areas on slopes around the base of the mountains. These species include snakeweed, mimosa, mesquite, creosote, cacti, Mormon tea, and sotol. Many other shrub species occur in small quantities. Major grass species present are black grama, silver bluestem, tobosa, and other gramas.

Mixed desert shrub sandy areas spread out into the flats on both sides of the mountain range. Major shrub species include snakeweed, Mormon tea, yucca, mesquite, creosote, and Apacheplume. Grass species include bush muhly, tobosa, threeawns, and gramas in small quantities.

2. Rare Plant Species

The following species were identified and located in or near the WSA (NMSHP and USFWS 1982; revised 1986).

ORGAN MOUNTAINS

Species: Cereus greggii - night blooming cereus
Status: Listed as endangered by the State of New Mexico; candidate for Federal listing.
Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

Species: Coryphantha organensis - Organ Mountain coryphantha
Status: Listed as endangered by the State of New Mexico.
Habitat: Canyons and west facing slopes in the Organ Mountains.

Species: Oenothera organensis - Organ Mountain primrose
Status: Candidate for Federal listing.
Habitat: Grows around spring areas; restricted to the Organ Mountains.

Species: Perityle ceruna - rock daisy
Status: Candidate for Federal listing.
Habitat: Grows on vertical cliffs with little or no direct sunlight.

E. Wildlife

1. General

Within the Organ Mountains WSA, there are great elevational differences (5,000 feet to 8,010 feet). Because of this, there is quite a variation in vegetation. Three life zones are found in the WSA.

About half of the WSA has been mapped as mixed shrub desert (41 percent) and creosote (9 percent). These habitat sites are within the Lower Sonoran Life Zone. The Upper Sonoran Zone is the mixed shrub mountain habitat site between 4,500 feet and 8,000 feet. Small pockets of ponderosa pine, representative of the Transition Zone, are found at the highest elevations.

The Organ Mountains have a varied wildlife community attributable largely to the elevation and vegetation differences. Several other factors also contribute.

Springs and seeps are well-distributed in the WSA. Some are seasonal, some yearlong. There is enough water for wildlife needs.

Much of the range is unvegetated cliffs which have a particular wildlife community associated with them. Golden eagles, prairie falcons, red-tailed hawks, and great horned owls nest in the cliffs, as do smaller birds such as canyon wrens and white-throated swifts, which are abundant in the WSA.

Certain mammals and reptiles are also associated with the rocky areas. Ringtails and rock rattlesnakes are typical rock-dwellers.

In the mixed shrub types, mule deer are common. The New Mexico Department of Game and Fish (NMDGF) (1980) estimates that there are 13 deer per section and the optimum number is 36 deer per section.

Mountain lions are fairly common in the San Andres Mountains, just north of the WSA. It is likely that they are also found in the WSA.

2. Threatened or Endangered Fauna Species

A State-listed endangered species, the Trans-Pecos rat snake has been collected in the Organ Mountains. It is often found in rocky, shrub-covered areas. It is threatened because of over-collecting.

Desert bighorn sheep, another State-listed endangered species, may be in the Organ Mountains. There are many reports from the military land south of the WSA, although none have been confirmed by NMDGF. When the San Andres herd was larger (pre-scabies outbreak), rams sometimes wandered south at least to San Augustin Peak and probably past Highway 70 into the WSA (Sandoval 1982).

Four molluscs, three species of Ashmunella and one of Sonorella, are endemic to the Organ Mountains. These molluscs are usually found in leaf litter and beneath rock talus under cliffs. Although at present there are no known threats to these snails and there have been no documented population declines, they are very restricted in distribution and little is known of them. The New Mexico Heritage Program lists these animals as elements of concern.

The U.S. Fish and Wildlife Service (FWS) returned a threatened and endangered species list request for the Organ Mountains WSA showing the peregrine falcon. However, this species was never observed during BLM's wildlife inventory (1977-1978). Fort Bliss (1980) surveyed the military portions of the Organ Mountains for peregrines and concluded that there were none nesting. The FWS (Carley 1982) stated that they knew of no eyries, but that the location and habitat is such that peregrines might nest there in the future, and migrating birds probably stop over.

F. Visual

The Organ Mountains form the eastern backdrop for the city of Las Cruces, the second largest urban area in New Mexico. The mountains are one of the most unique and spectacular topographic features in the region and visually dominate the landscape within a 25 to 30 mile radius.

Three scenic quality rating units describe the Organ Mountains WSA. The central part of the WSA, composed of the peaks and lower elevations of the mountains, has a Class A (high) rating. The higher elevations are characterized by steep, angular, barren rock outcroppings with massive, jagged, vertical intrusions dominating the highest peaks. More rounded peaks are less predominant but add interest to the strong ridgeline/sky interface. Moderately sloping rounded and boulder strewn hills characterize the lower elevations. Muted gray green and light browns

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are representative colors in the lower elevations while granitic gray to light pinkish gray typify the high pinnacles. The form and color of the vegetation is diverse. Low shrubs and grasses of light brownish green are the dominant ground cover. As the elevation increases, the vegetation changes from patches of yucca to juniper to oak to ponderosa pine, all of a dark green color. Streams flow intermittently and snow cover at the highest elevations is not uncommon during the winter months, particularly on the east-facing slopes.

The northeast part of the WSA has a Class B or moderate rating. This part of the WSA is characterized by low hills with rounded slopes and scattered boulders in light brown or tan. Light brown grasses and low shrubs are prevalent with occasional dark green small trees.

The southwest part of the WSA has a Class C or low rating. This area is a flat to gently rolling alluvial plain. Coloration is typically light reddish brown. Vegetation is primarily grasses and low shrubs in muted greens and light browns.

The WSA is within a Visual Resource Management Class II area.

G. Cultural

There are no known cultural sites within the Organ Mountains WSA, although several are located along its perimeter. While there has been no formal survey of the area, it has received more visitation than most of the other WSAs combined. Any large, obvious prehistoric sites probably would have been reported by now.

There are historic reports of Apaches in the area. The main historic use of the area was for mining from 1849 to 1900. The WSA was the scene of the first action of the Civil War in New Mexico as Confederate forces used the present Baylor Pass Trail to outflank Union forces; however, nothing remains of this event now. While there are no major sites in the area, the history contributes to the supplemental values of the area.

H. Air

Generally, the quality of air within the Organ Mountains WSA is good. The air quality in the WSA does not exceed State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

Activities within the Rio Grande Valley, located approximately 10 miles west of the WSA, could slightly lower the air quality, but the change probably would not be noticeable, nor would it lower the present Class II rating of air quality in the WSA.

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The mineral potential of the WSA is shown on Map 38-2. The locations of mining claims are shown on Map 38-3.

1. Energy Minerals (Geothermal)

As of April 15, 1986, there were no mineral leases in the WSA.

Most of the area within the WSA is covered by special stipulations for energy minerals leasing (BLM Las Cruces/Lordsburg MFP Amendment/EIS 1983). The Baylor Recreation Area and part of the Organ Mountains Recreation Area are within the WSA. These areas are Not Open to Leasing. All but 473.49 acres of the Organ Mountains WSA is within the Organ Mountains Recreation Lands (OMRLs). Energy mineral leases let within the OMRLs would be covered by a protective stipulation for recreation values. Much of the WSA has also been identified as having special wildlife values which are also protected by a special stipulation. There are no mineral leases in the WSA.

There are no known occurrences of geothermal resources in the WSA. There has been no geothermal exploration. However, there are some positive geologic indicators: (1) the presence of the WSA within the Rio Grande rift; (2) the possible existence of a north-trending fault west of the western pediment of the Organ Mountains; and (3) the presence of Tertiary intrusive rocks.

The nearest geothermal occurrences are to the west along the Rio Grande Valley where hot water is rising along the Valley fault, a north-trending zone along the east side of the valley. However, according to Swanberg (1975), temperatures estimated from geothermometry studies of ground water in the area decrease rapidly away from the Valley fault. Based on the geologic environment of the WSA and Swanberg's (1975) study, the WSA may have low to moderate potential for geothermal resources. However, until there is direct evidence which confirms the existence of geothermal resources or the favorability for their occurrence, the potential is classified as low.

2. Nonenergy Minerals

According to BLM mining claim records dated April 15, 1986, there are 47 pre-Federal Land Policy and Management Act (FLPMA) mining claims and 38 post-FLPMA claims for a total of 85 claims in the WSA.

a. Base and Precious Metals (Lead, Silver, Copper, Gold, Zinc, Molybdenum, Tungsten)

The Organ mining district has been one of the most important metal producing areas in New Mexico. The district includes the Organ Mountains and the southern San Andres Mountains which are just north

of the WSA. Total production of the Organ district from 1854 to 1934 has been about \$2.5 million. Of this total, about \$1.15 million worth of production has come from the Stevenson-Bennett mine cherry-stemmed into the northeast part of the WSA. Lead, silver, and copper have been the major metals produced in the Organ district with some production of gold and zinc. There has been no production of metallics since about 1934.

Most of the mineral deposits in the Organ district are related to the Sugarloaf Peak quartz monzonite porphyry, one of the latest phases of the Organ batholith. The largest metallic deposits involve replacement of limestone and dolomite at or above the contact with the quartz monzonite porphyry. Major ore production has been from mines along the Torpedo-Bennett fault zone. This fault zone acted as a conduit which guided mineralizing fluids into contact with reactive Paleozoic strata.

There are three patented mining claims along the Torpedo-Bennett fault zone that are important because of their proximity to the WSA: the Memphis and Torpedo mines just north of the WSA and the Stevenson-Bennett mine. The Stevenson-Bennett mine (T. 22 S., R. 3 E., Section 11, SE $\frac{1}{2}$) has been the major producing mine in the Organ district. About \$1.15 million worth of lead, silver, and zinc ore has been produced. According to Dunham (1935), about 35,000 tons of lead-zinc ore remains at the mine. The Torpedo mine (T. 22 S., R. 3 E., Section 1, SW $\frac{1}{2}$) produced about \$800,000 worth of copper. A large body of low-grade ore probably exists at depth in the Torpedo deposit (Dunham 1935). The Memphis mine (T. 21 S., R. 3 E., Section 36, NW $\frac{1}{2}$) produced \$200,000 to \$400,000 worth of copper, zinc, and silver. According to Dunham (1935), enriched sulphide ores may be present at depth in the Memphis deposit.

Another replacement-type deposit along the western flank of the Organ Mountains is the patented Modoc mine (T. 22 S., R. 4 E., Section 31, SW $\frac{1}{2}$) which is just south of the WSA. This deposit involves replacement of Hueco limestone that is in fault contact with the Orejon andesite. About \$200,000 worth of lead was produced from the mine. Mineralization at the mine workings indicates that lead-silver ore may be present at depth (Dunham 1935).

Recent exploration interest in the Organ Mountains has been directed toward discovery of porphyry-type copper deposits and massive replacement orebodies (Seager 1981). Confidential drill hole data from the pediment area north of the town of Organ indicate that favorable host rocks occur in a shallowly-buried pediment that extends at least 1 $\frac{1}{2}$ miles west of the westernmost outcrops of quartz monzonite porphyry (Seager 1981). In the western portion of the WSA, rock outcrops and gravity data indicate that the pediment extends 2 to 3 miles west of the peaks of the Organ Mountains. According to Seager (1981), there is potential for molybdenum and lead-zinc replacement orebodies beneath the pediment. The pediment in the western flank of the WSA has remained essentially unexplored.

The Sugarloaf Peak quartz monzonite porphyry contains many mineralized veins and dikes (Seager 1981). At the Silver Coinage Vein (T. 21 S., R. 4 E., Section 29, SW $\frac{1}{2}$) north of the WSA, shipments of silver

ORGAN MOUNTAINS WSA (NM-030-074)

Proposed Action—All Wilderness Alternative

MAP 38-2 MINERAL RESOURCE POTENTIAL*

Legend

-  WSA BOUNDARY
-  AMENDED BOUNDARY

Land Status

-  BLM
-  PRIVATE
-  STATE
-  BLM SURFACE/NON BLM SUBSURFACE

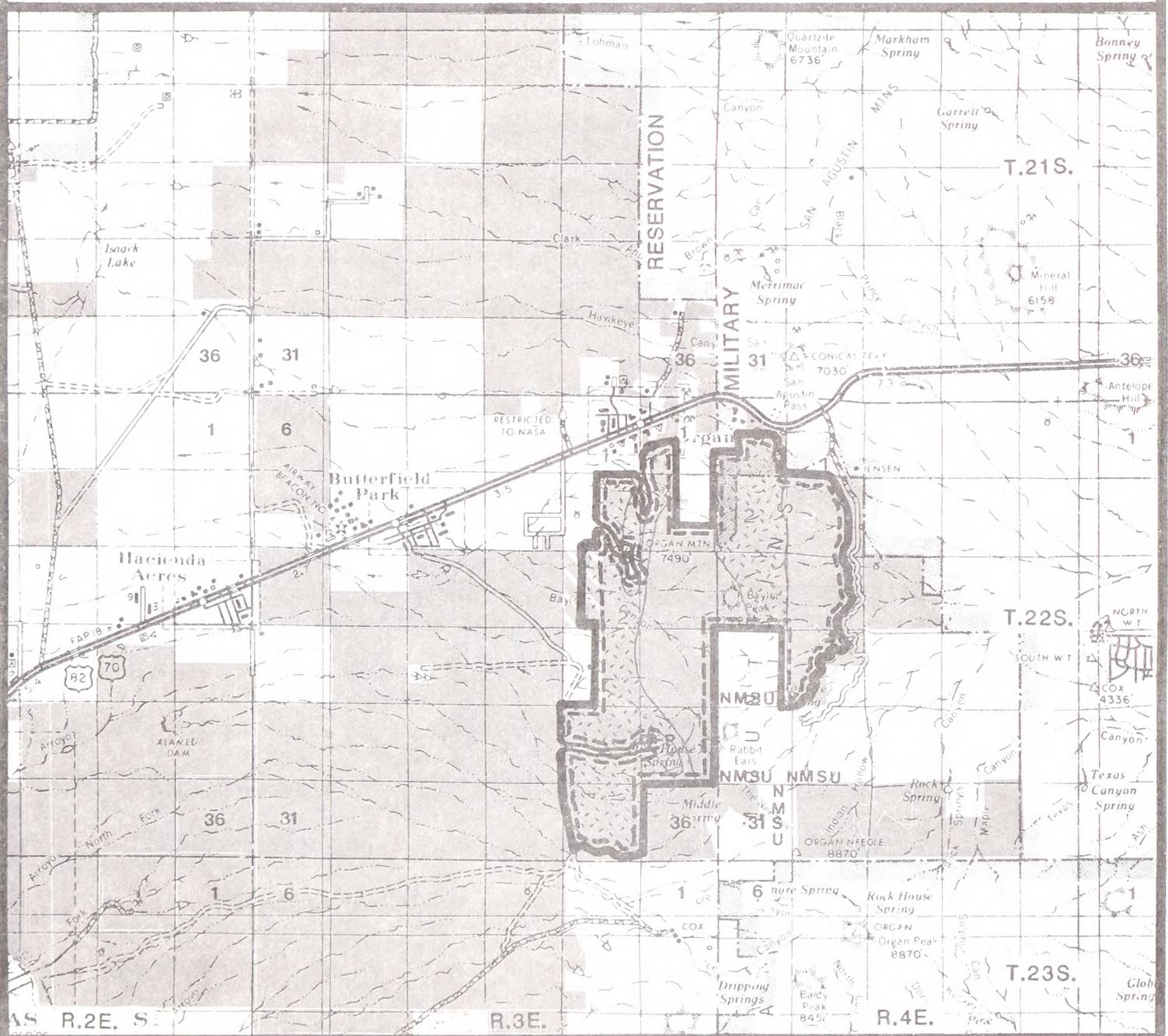
Scale: 1/2 Inch=1 mile

 Base and Precious Metals

 Fluorspar

* Areas of high (1) and moderate (2) mineral potential are shown for lands within the WSA except for split-estate land; the potential may extend onto the split-estate land and outside the WSA boundary. Areas of low potential are not shown.

Source: USDI, BLM, Las Cruces District, April, 1986.



ORGAN MOUNTAINS WSA (NM-030-074)

Proposed Action-All Wilderness Alternative

MAP 38-3

MINING CLAIMS AND MINERAL LEASES*

Legend

- WSA BOUNDARY
- - - AMENDED BOUNDARY

Land Status

- BLM
- PRIVATE
- STATE
- BLM SURFACE/NON BLM SUBSURFACE

Scale: 1/2 inch=1 mile

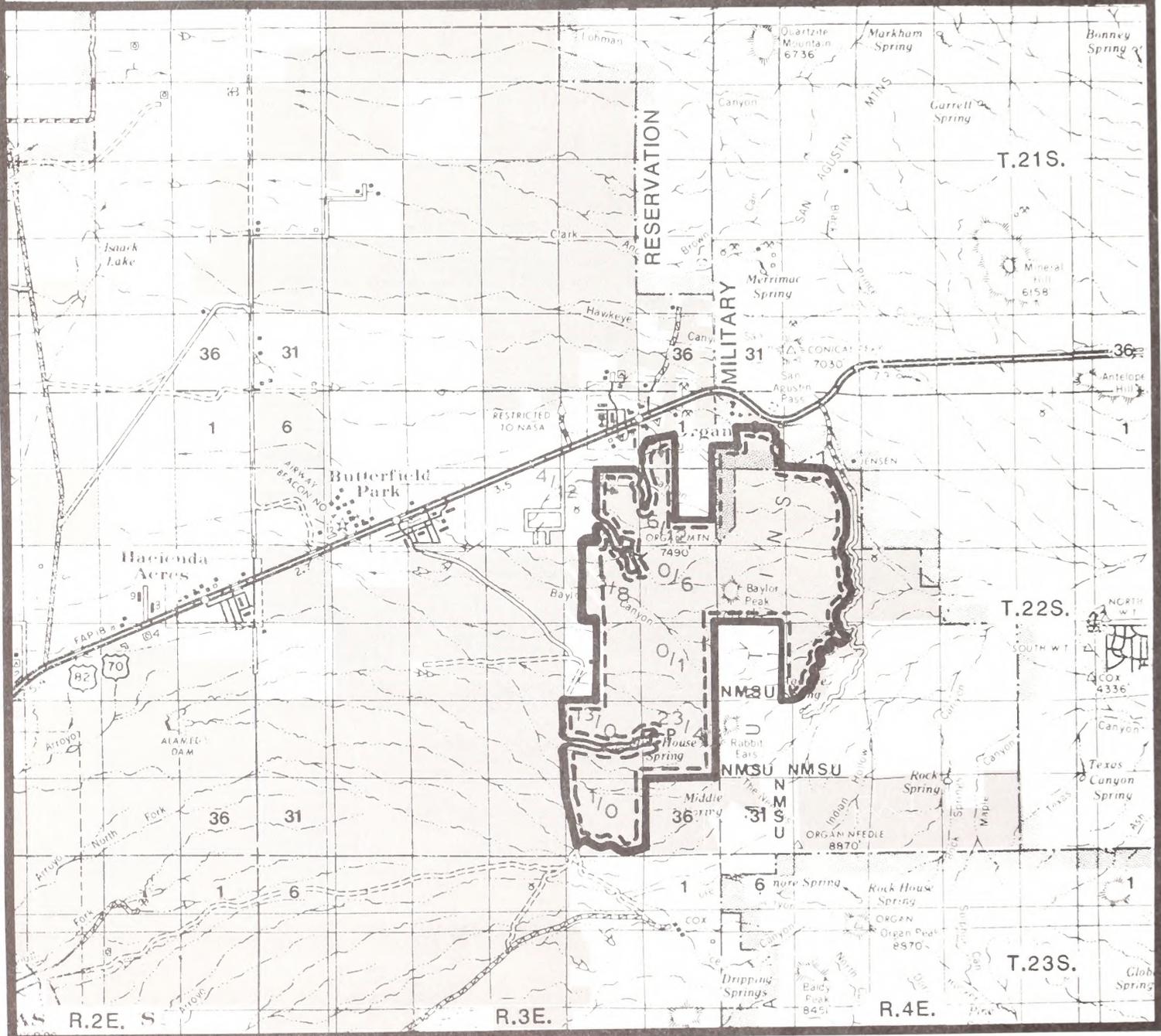
Source: USDI, BLM, Las Cruces District, April, 1986.

- 1/ Pre-FLPMA Mining Claims per section
- 0 Post-FLPMA Mining Claims per section

FLPMA was passed October 21, 1976.

*No mineral leases exist in the WSA as of BLM records dated April 15, 1986.

(Claim information from BLM records dated April 15, 1986; claims which overlap more than one section are counted in each section in which they occur.)



ore were made in 1934 (Dunham 1935). At the Poor Man's Friend vein (T. 22 S., R. 3 E., Section 1, SE $\frac{1}{4}$) adjacent to the north boundary, ore samples revealed the presence of lead and silver (Dunham 1935). Within the northeastern portion of the WSA, there are northwest-trending veins that have not been explored.

The potential for discovering mineral resources in the WSA is encouraging. There is high potential for metallic mineral resources in the vicinity of the Torpedo-Bennett fault zone. Although the major surface deposits have already been found, there is potential for discovery of additional ore deposits at depth in this area. The entire western flank of the Organ Mountains, including the pediment, has moderate potential for metallic mineral resources. The northeastern portion of the WSA in the vicinity of T. 22 S., R. 4 E., Sections 7 and 18, has moderate potential for precious metals.

b. Fluorspar

In 1933, approximately 400 tons of fluorspar were produced at the patented Ruby mine (Williams 1966). The mine lies on the western flank of the Organ Mountains (T. 22 S., R. 3 E., Section 25, SW $\frac{1}{4}$). The ore occurs as open-space fillings and replacements of marble in several north-trending faults that cut the Lead Camp limestone. The limestone has been intruded by an andesite porphyry sill that also contains some fluorspar (Seager 1981). Fluorspar is found along the east and west contacts of the andesite porphyry from the Ruby mine southward to the Modoc mine (Glover 1975). The potential for fluorspar resources along this zone is high.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE ORGAN MOUNTAINS WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*
Energy Minerals			
Geothermal	Tertiary intrusives; Organ batholith	Low	—
Nonenergy Minerals			
Base and Precious Metals (Lead ^a , Silver ^a , Copper ^a , Zinc ^a , Gold, Molybdenum ^a , Tungsten ^a)	Replacement deposits related to faults and shear zones; mineralized veins in Sugarloaf Peak quartz monzonite porphyry; possible porphyry copper-type deposits in pediment	High Moderate	200 3,600
Fluorspar ^a	Replacement deposits related to faults and shear zones	High	100

Notes: *Acreage was not calculated for areas with low potential.
^a/These commodities are on the National Defense Stockpile Inventory of Strategic and Critical Minerals.

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B. Watershed

Water use within the Organ Mountains WSA is primarily by livestock and wildlife. There is a dirt tank inside the WSA that utilize surface runoff and five developed springs that provide seasonal water (see Chapter III, Livestock Grazing). Additionally, several well facilities and dirt tanks are located just outside the WSA for livestock watering and limited domestic use.

The Organ Mountains WSA is within the Lower Rio Grande declared underground water basin and ground water use is administered by the New Mexico State Engineer.

C. Livestock Grazing

1. Allotments

Parts of five grazing allotments are within the Organ Mountains WSA. Livestock use in most of the Organ Mountain range is limited due to the steep slopes. Licensed grazing use on public land includes cattle and a few horses.

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
A. B. Cox 5002	15,180	1,504	68	6	.4%
San Augustine Ranch 5003	4,897	624	2,428	312	50%
D. Hopkins 5006	1,340	275	1,012	209	76%
S. Walter 5012	1,180	168	439	62	37%
Baylor Canyon 5013	10,988	1,428	3,336	414	29%
TOTAL			7,283	1,003	

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Type of Development	Location
San Augustine Ranch 5003	3 flood control dikes	T. 22 S., R. 4 E., Sec. 8
	improved spring	T. 22 S., R. 4 E., Sec. 20
	interior fence	1 mile
Baylor Canyon 5013	spring	T. 22 S., R. 3 E., Sec. 13
	dirt tank	T. 22 S., R. 4 E., Sec. 13
	improved spring	T. 22 S., R. 4 E., Sec. 14
	improved spring	T. 22 S., R. 3 E., Sec. 24
	spring	T. 22 S., R. 3 E., Sec. 26
	interior fence	3 $\frac{1}{2}$ miles
rock tank	T. 22 S., R. 3 E., Sec. 26	

Boundary Fences:

Baylor Canyon 5013 and Walter 5012	1 $\frac{1}{2}$ miles
San Augustine Ranch 5003 and Walter 5012	1 mile
Cox 5002 and Baylor Canyon 5013	1 mile

Note: ^{a/}Information shown in tables reflects only Federal acres and animal unit months (AUMs), and rangeland developments on public land.

D. Recreation

Most of the Organ Mountains WSA is within the Organ Mountains Recreation Lands (OMRLs). The OMRLs were designated as Class II General Outdoor Recreation Lands in 1971. The Baylor Recreation Site and portions of the Organ Mountains Recreation Area are within the WSA. These areas were classified for recreational purposes under the Classification and Multiple Use Act and are segregated from all forms of mineral entry. The OMRLs are designated limited to existing roads and trails for off-road vehicle (ORV) use. No motorized cross-country travel is allowed.

The Aguirre Spring campground is a developed recreation site less than $\frac{1}{4}$ mile from the southeast boundary of the WSA. The campground is on New Mexico State University land across which BLM has a perpetual easement for recreational purposes and developments. The campground has 55 picnic/camping units. There are approximately 100,000 visitors to the Aguirre Spring Campground annually.

Two National Recreation Trails are in the OMRLs. The Pine Tree National Recreation Trail is on New Mexico State University land adjacent to the WSA. The Baylor Pass National Recreation Trail bisects the WSA. In addition to hiking, horseback riding is allowed on the Baylor Pass Trail.

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The Mesilla Valley Track Club sponsors the Baylor Pass Run which has been held every fall since 1971. Over 170 runners participated in the race across Baylor Pass in 1983.

Parking facilities are available at the Aguirre Spring campground, Baylor Pass trailhead, and San Augustin wayside on U.S. Highway 70 for access into the WSA.

Recreational activities in the Organ Mountains include bird hunting, rock collecting, picnicking, camping, hiking, rock climbing, horseback riding, and geological, botanical, and zoological sightseeing.

A special permit deer hunt was held in the Organ Mountains in the past. However, the Organ Mountains were closed to deer hunting in 1983. Bird hunting takes place along the slopes of the Organ Mountains in the northeast and southwest parts of the WSA.

Technical rockclimbing opportunities in the Organ Mountains are nationally significant. Climbing in the Organ Mountains is done on quartz monzonite, similar to the granite in Yosemite National Park. Most of the climbing opportunities are between Baylor Pass and the Organ Needle, and in the Sugarloaf area east of the WSA. Groups of 20 or more persons climb in the Organ Mountains two or three times a month, while small groups of three to five get out on their own every week.

E. Education/Research

In the higher elevations, there is a possibility for dendrochronological studies of the ponderosa pine by the Tree Ring Laboratory of the University of Arizona in connection with climatic reconstruction work being done by Dr. Ferguson.

F. Realty Actions

There are sections of three power transmission lines that border the Organ Mountains WSA. On the north, Plains Electric Generation and Transmission Cooperative, Inc. has a right-of-way (ROW) for a 115kv transmission line. This ROW has recently been amended for route changes, but does not enter the WSA. El Paso Electric Company has ROWs for transmission lines along the northeast boundary of the WSA and along the road to the Stevenson-Bennett mine, which is cherry-stemmed into the northwest part of the WSA.

G. Wildlife

There are no existing wildlife developments in the Organ Mountains WSA. However, a deer Habitat Management Plan is proposed in the Southern Rio Grande Management Framework Plan (MFP) (BLM 1981) for the Organ Mountains.

According to Andy Sandoval of the New Mexico Department of Game and Fish, survey work will be pursued for desert bighorn sheep. If bighorn sheep are found, more will probably be put into the Organ Mountains to supplement this native herd.

H. Visual

The Southern Rio Grande MFP (BLM 1981) contains a decision to designate the Organ Mountain Scenic Area (8,947 acres) as an Area of Critical Environmental Concern (ACEC) for visual resources. (See Map 38-1 for general location of the ACEC.)

The Organ Mountains meet the two criteria required for an area to be considered as a potential ACEC for scenic values: (1) the area rates high (Class A) in scenic quality and (2) the area has a rating of five for scarcity. Class A scenic quality ratings are assigned to areas that combine the most outstanding characteristics of each of the following seven rating factors: landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modifications. The Organ Mountains were rated high for scarcity because they are recognized as an uncommonly scenic geologic formation within the Basin and Range physiographic province. The high visual sensitivity is further supported by the number of users. The Organ Mountains are viewed daily by a resident population in excess of 60,000 people. They are traversed by U.S. Highway 70 with an average annual daily traffic (AADT) volume of over 5,000 vehicles and paralleled by Interstate Highway 25 with an AADT of over 11,000 vehicles. Recreation use within designated areas exceeds 100,000 annual visits. A yet to be determined number of dispersed recreation users in the Organ Mountains will further increase the visitor use figure. The scenic resources of the Organ Mountains are also important in terms of people's perceptions and attitudes toward the management of that resource. As documented in the Southwestern New Mexico Socio-Economic Profile prepared by Harbridge House Inc. (October 1978), residents of Las Cruces share the attitude that the Organ Mountains should be preserved and protected, citing them as centers of recreational activity and a source of considerable civic pride.

The environmental impacts of designating the ACEC were analyzed in the Draft Las Cruces/Lordsburg Management Framework Plan Amendment/Environmental Impact Statement (BLM 1983) for energy minerals leasing, rangeland management, and ACECs. Approval of the plan (May 1984) formally designated the Organ Mountains Scenic Area. If the Organ Mountains are designated wilderness, the ACEC designation would be cancelled without further planning action. The special management objectives of the ACEC are to protect, prevent irreparable damage to, and enhance the scenic values of the Organ Mountains. The special management requirements of the ACEC include retention of the existing closure to plant collection and sale, restriction of vehicle use to existing roads and trails, and retention of the existing segregation of approximately 1,479 acres from all forms of mineral entry (under the Classification and Multiple Use Act of 1964). Additional special management requirements include management of the ACEC as a Visual Resource Management (VRM) Class I and removal of the exposed gravel piles near the Stevenson-Bennett mine. The remaining 6,017 acres of the ACEC would be withdrawn from locatable and saleable mineral entry subject to valid existing rights. An additional 2,753 acres of Federal mineral estate on the north, east, and south boundaries of the ACEC would also be withdrawn from locatable and saleable mineral entry. A No Surface Occupancy stipulation would be attached to energy minerals leases. No new rights-of-way would be authorized.

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Cooperative agreements would be sought with the Regents of New Mexico State University and the State Land Office to ensure that management of University and State lands adjacent to the ACEC are managed as a VRM Class I.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The natural appearance of the Organ Mountains WSA is affected by a variety of the imprints of man: rangeland developments, access routes, historic mining activity, the outside sights of developments along the north boundary of the WSA, and the city of Las Cruces and White Sands military base. In most cases, the influence of these imprints is mitigated by vegetative and topographic screening and by their location in relation to the WSA's boundaries and other imprints.

The earthen dams along the west and east sides of the Organ Mountains are generally well camouflaged by vegetative and topographic screening and do not detract from the natural appearance of the WSA. Approximately 8 miles of barbed wire fence are within the WSA and on the boundary. Most have wooden posts which blend in with the landscape.

The naturalness of the WSA has been affected somewhat by the evidence of historic mining activity along the west face of the Organ Mountains. The road to Mine House Spring is cherry-stemmed out of the WSA. Past Mine House Spring, the route is unmaintained and provides access to the patented Ruby mine that is inactive. The tailings piles, structures, and mine entrance are topographically screened from the rest of the WSA.

The Stevenson-Bennett mine is located at the base of a ridge in the northwest part of the WSA. The road, power transmission line and right-of-way (ROW), and mine are cherry-stemmed out of the WSA. The large cut in the hillside is several hundred feet long. The mine cut and large piles of gravel next to the mine create a visual impact when viewing the area from the north and west, but the topography camouflages the mine and gravel piles from most of the WSA.

Imprints of man originating from outside the WSA do not significantly affect the overall natural appearance of the WSA, although developments in San Augustin Pass and the cities of Organ and Las Cruces, and the White Sands Missile Range can be seen from the WSA.

The developments in San Augustin Pass include evidence of mining activity, U.S. Highway 70, several hundred buildings, and two powerlines with double post structures 20 and 50 feet tall. These imprints negatively impact the northern part of the WSA but are screened topographically from most of the WSA, as is the town of Organ. Although the city of Las Cruces and the White Sands military base contrast with the natural appearance of the WSA, they are far enough removed that they do not dominate the view and should heighten public awareness and appreciation of the natural appearance of the Organ Mountains WSA.

The major topographic features of the WSA remain unaffected by the imprints of man. Rugged canyons and steep ridges have restricted development to the gentler slopes along the eastern and western boundaries. The Organ Mountains WSA appears to have been affected primarily by the forces of nature and the imprint of man's work is substantially unnoticeable.

b. Solitude

The Organ Mountains WSA provides outstanding opportunities for solitude. The rugged topography of the mountain range bisecting the WSA creates numerous opportunities for solitude. Baylor Peak rises over 2,700 feet above the surrounding plains and half a dozen major ridges descend from the backbone of the range, with each breaking off into countless smaller ridges with drainages between each one. As a result, a great deal of topographic relief is present and topographic screening and opportunities for seclusion are offered in almost every drainage and on many ridges. Along the eastern and western boundaries, the terrain is less rugged; however, there is still a 10-20 degree slope and several small arroyos and ridges which offer a moderate amount of topographic screening.

Opportunities for solitude in the northern end of the WSA are slightly impacted by the sounds of traffic on U.S. Highway 70. Topographic features generally block the sound out of the drainages.

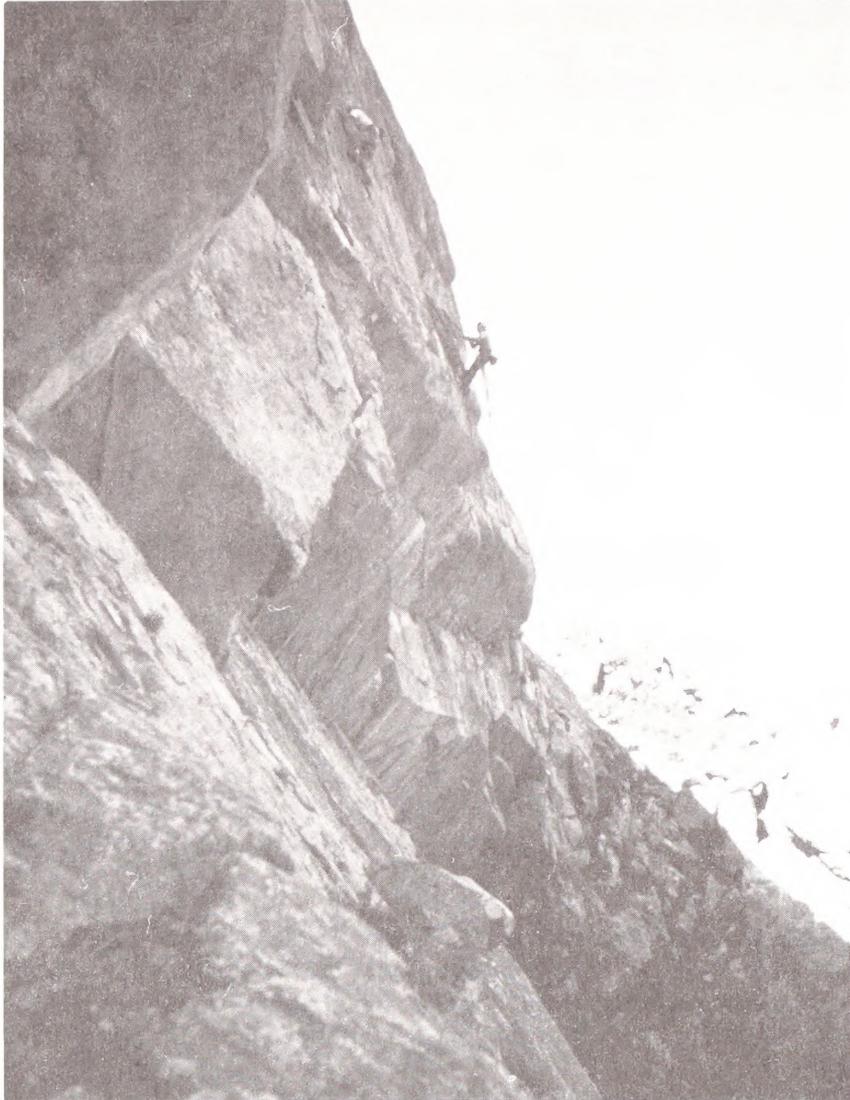
c. Recreation

The Organ Mountains Recreation Lands (OMRLs) have been intensively managed for recreational purposes since 1971 and nonmotorized activities constitute the primary existing use within that part of the OMRLs included in the WSA. (See Chapter III, Recreation.)

Opportunities for primitive and unconfined types of recreation in the Organ Mountains WSA are enhanced by several factors: size and boundary configuration, topographic relief, opportunities for challenge and risk, vastness of scale, opportunities to use outdoor skills, the quality and diversity of the recreational resource and supplemental values.

The majority of the public land in the WSA is blocked up so that visitors may spend an afternoon or weekend hiking and exploring the WSA. In addition, New Mexico State University land south and east of the WSA are managed by the BLM for both developed and primitive types of recreation.

The topography of the Organ Mountains is so rugged and diverse that visitors traveling off trails have excellent opportunities for challenge and risk. The vastness of scale in the WSA is significant. Baylor Peak rises over 2,700 feet above the surrounding plains and the mountain range dominates the landscape for miles around.



Climbers on the Citadel. (Photo courtesy of Paul Kemp)

The lack of recreational facilities within the WSA offers excellent opportunities to use outdoor skills and interact with a natural environment.

A diversity of high quality recreational activities can be accommodated within the WSA. The rugged terrain offers outstanding opportunities for horseback riding and day hiking, and both individuals and groups often use the area for these purposes. Rockclimbing opportunities in the Organ Mountains are nationally significant and there are also several rock faces popular for rockclimbing in the southern half of the WSA. Opportunities for sightseeing geological features are excellent throughout the WSA and opportunities for sightseeing botanical features are present around Baylor Pass.

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The Organ Mountains WSA offers outstanding opportunities for a primitive and unconfined type of recreation in terms of both quality and diversity of available opportunities.

2. Special Features

The Organ Mountains WSA contains special ecological and scenic features.

The ecological features include both vegetation and wildlife values of scientific and educational interest. Within the Organ Mountains, there are great elevational differences. As a result, three life zones occur in the area which accounts for the great diversity in vegetation. The WSA provides habitat for two plant species which are candidates for Federal listing and two plant species listed by the New Mexico State Heritage Program as endangered and candidates for Federal listing. (See Chapter II, Vegetation.)

The Organ Mountains also have a diverse wildlife community. This can be largely attributed to the elevation and vegetation differences and, to a lesser extent, the presence of special habitat features such as springs, seeps, cliffs, and rocky areas. The WSA provides habitat for the State endangered Trans-Pecos rat snake and four species of endemic molluscs listed as elements of concern by the New Mexico State Heritage Program. The State endangered desert bighorn sheep may also occur in the area. (See Chapter II, Wildlife).

The Organ Mountains WSA has outstanding scenic features. The area has a Class A (high) scenic quality rating. Most of the WSA is within the Organ Mountains Scenic ACEC for visual resources. (See Chapter II, Visual.)

Potential future projects of scientific and educational value in this WSA include dendrochronological studies of the ponderosa pine in connection with climatic reconstruction work. (See Chapter III, Education/Research.)

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the Organ Mountains WSA as being in the Chihuahuan Desert Province with a potential natural vegetation of juniper-pinyon woodland.

The general nature of the Bailey-Kuchler System fails to show the vegetation variety and diversity of the WSA. Further refinement of the system shows the following vegetation types in the WSA:

<u>Vegetation Type</u>	<u>Acres</u>
western ponderosa forest	163
mountain mahogany oak scrub	3,362
Trans-Pecos shrub savanna	3,758

b. Distance From Population Centers

The Organ Mountains WSA is approximately 1 $\frac{1}{2}$ hours driving time from El Paso, Texas; $\frac{1}{2}$ hour from Las Cruces, New Mexico; 4 $\frac{1}{2}$ hours from Albuquerque, New Mexico; 5 $\frac{1}{2}$ hours from Tucson, Arizona; and 7 $\frac{1}{2}$ hours from Phoenix, Arizona.

B. Manageability

The following factors affect the potential of the Organ Mountains WSA to be managed as wilderness: locatable minerals potential, existing minerals segregations, split-estate holdings, existing access, and recreational facilities.

Strategic minerals are known to occur in the Organ Mountains WSA and there has been production in the past. There is high and moderate potential for base and precious metals and fluorspar deposits along the west and northeast slopes in the Organ Mountains WSA. Several mines along the west side are patented.

The Stevenson-Bennett-San Augustin group of patented mining claims have been cherry-stemmed out of the WSA (50 acres) and the Ruby patented mine is a 40-acre inholding. In addition, several patented mines in T. 22 S., R. 3 E., Section 12, W $\frac{1}{2}$ (approximately 41 acres) are surrounded on the east and west sides by the WSA. Numerous unpatented mining claims are located around the patented mines and along the west face of the mountains.

There are both pre-Federal Land Policy and Management Act (FLPMA) and post-FLPMA unpatented mining claims within the Organ Mountains WSA. The presence of these claims affects the manageability of the WSA in two ways:

1. The FLPMA specifies that mining uses that existed on the date of approval of the Act may continue in the same manner and degree during the time that an area is under wilderness review. Such mining uses are grandfathered and may continue even if the uses would impair wilderness suitability.

In addition, mining claimants may be recognized as having a valid existing right if a valid discovery had been made on the claim before the passage of FLPMA on October 21, 1976, and the

claimant can show BLM that the claim continues to be supported by such a discovery. Valid existing rights convey a more liberal development standard than grandfathered rights in that activities on valid claims are not limited to the same manner and degree. When it is determined that the valid existing rights can be exercised only through activities that will impair wilderness suitability, the activities will be regulated only to prevent unnecessary and undue degradation. If any of the pre-FLPMA claims in the Organ Mountains WSA which meet the above criteria are developed, wilderness values could be degraded before the area is designated wilderness.

2. Once an area is designated wilderness, the provisions of the Wilderness Act of 1964 and the Wilderness Management Policy (WMP) (BLM 1981) apply. Under the Wilderness Act and the WMP, holders of mining claims validly established in an area prior to its designation as wilderness may develop their claims in accordance with the 43 CFR 3809 regulations, "Surface Management of Public Lands Under U.S. Mining Laws." Although exercise of the valid existing rights of mining claimants must be with the least possible impact on the wilderness resource and claimants will be required to prevent unnecessary or undue degradation of the land, mining operations may impair wilderness values if there are no reasonable alternatives. In this case, wilderness values could continue to be degraded after the area is designated wilderness.

The patented mines are presently inactive and their impact upon manageability is insignificant. The owner has indicated intentions of reopening and reworking the mines if and when the minerals market improves. It is difficult to predict when the minerals in the Organ Mountains will be economically exploitable; however, it is expected that exploration and a low level of development would occur in the long-term. Reopening the patented mines and full-scale development of the mining claims would certainly degrade wilderness values.

The split-estate ownership (Federal surface, non-Federal subsurface) of 139 acres in T. 22 S., R. 3 W., Section 14 represents a potential manageability problem. The BLM is required to provide reasonable access to non-Federal inholdings, including subsurface inholdings, within wilderness areas. Any development of the subsurface estate would likely require overland access and would result in surface disturbance and degradation of wilderness values. However, BLM may be able to acquire the subsurface estate in the near future. BLM records indicate that the subsurface estate is owned by the State of New Mexico. BLM recently acquired several State-owned parcels in the Organ Mountains through exchanges, and is working with the State Land Office to acquire additional State holdings including subsurface holdings, in and around the Organ Mountains. If the 139 acres of subsurface estate is acquired by BLM, the potential manageability problem would be resolved.

Positive factors influencing the manageability of the Organ Mountains WSA include the approximately 1,479 acres of the WSA (T. 22 S., R. 3 E., parts of Sections 13, 14, 23, 24 and T. 22 S., R. 4 E., parts of Sections 6, 8, 17, 20) which have been segregated from mining and mineral leasing.

The manageability of the WSA is enhanced by the presence of approximately 2,089 acres (T. 22 S., R. 4 E., Sections 19, 29, 30, and part of 31) granted to New Mexico State University (NMSU) in 1937 under the Recreation and Public Purposes Act. These lands are contiguous to the south and southeast boundaries of the WSA (see Map 38-1 for land status). The NMSU lands are very rugged and densely vegetated with ponderosa pine, oak, and juniper. These lands are managed by the BLM for recreational purposes under a perpetual easement from the University and present administration enhances the manageability of the WSA. An additional area of approximately 1,760 acres of Federal land is contiguous to the NMSU land on the east. This area encompasses Sugarloaf Peak and Indian Hollow. This area is also very rugged, densely vegetated, and managed by the BLM primarily for recreation. Most of this area is segregated from mineral entry. In summary, the present administration by BLM on the approximately 3,849 acres adjacent to the southeast boundary of the WSA would enhance the wilderness manageability of the Organ Mountains WSA.

The WSA is accessible from several roads. The Aguirre Spring Road and West Side access road constitutes the eastern and western boundaries of the WSA, and U.S. Highway 70 lies a half-mile to the north. Recreational facilities at the Aguirre Spring campground attract high levels of use, some of which spills over into the WSA. Parking facilities are available at the Aguirre Spring campground, on the West Side road at the Baylor Pass Trailhead (T. 22 S., R. 3 E., Section 14), and at the San Augustin wayside on U.S. Highway 70 (T. 22 S., R. 4 E., Section 6). No further access is necessary as visitors may enter and traverse the WSA without leaving land administered by the BLM.

The roads to the Stevenson-Bennett mine and Mine House Spring have been cherry-stemmed out of the WSA. The gate on the road to the Stevenson-Bennett mine is usually locked and the road to Mine House Spring requires a four-wheel drive vehicle. These roads may cause manageability problems by allowing vehicles access into the WSA.

Approximately 474 acres of private land (south of the power transmission line in T. 22 S., R. 3 E., Section 1, SE $\frac{1}{4}$, Section 12, E $\frac{1}{4}$, and T. 22 S., R. 4 E., Section 6, SW $\frac{1}{4}$) should have a high priority for acquisition if the area is designated wilderness. The private lands are contiguous to the north boundary of the WSA and would enhance the manageability of the area as wilderness. Approximately 131 acres of patented mining claims (in T. 22 S. R. 3 E., Sections 11-14 and 25) cherry-stemmed out of the the WSA should also be acquired. The acquisitions would also enhance the topographic integrity of the area and eliminate the potential for impacts on wilderness values as a result of nonwilderness uses on the non-Federal lands.

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The Organ Mountains WSA could be managed in the long-term to preserve existing wilderness values. The WSA is within the Organ Mountains Recreation Lands which are managed primarily for recreation, portions of the WSA are already segregated from mineral entry, the area is accessible, and its boundaries easily identifiable on the ground.

V. IMPACTS TO THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness (Proposed Action)

Under this alternative, the entire 7,283 acres of public land within the Organ Mountains WSA would be recommended suitable for wilderness designation. (See Map 38-1 for location of the WSA boundary.)

If designated wilderness, the existing uses and activities in the area and potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the BLM's Wilderness Management Policy (WMP) (BLM 1981).

In 7,283 acres designated as wilderness, closure to vehicle use will result and opportunities for exploration and development of minerals would be foregone. Short-term consumptive uses would not degrade the maintenance and enhancement of the long-term productivity. Although designation of wilderness constitutes a long-term commitment of resources, such designation is reversible by Congress.

1. Impacts on Wilderness Values

Under the All Wilderness Alternative, the high quality naturalness of the steep-sided crevices, canyons, and spires of the mountain would be maintained. The area could continue to be used for environmental studies by local schools since its close proximity to Las Cruces makes it ideal for such uses. In addition, the Organ Mountains form a scenic backdrop for approximately 100,000 residents in and around the Mesilla Valley. The area's outstanding opportunities for hiking, backpacking, photography, nature study, rock climbing, sightseeing, picnicking, and camping would be maintained in the long-term. The outstanding opportunities for solitude provided by the numerous canyons and ridges would be preserved. The WSA's special features include a variety of wildlife habitat types that support mule deer, mountain lions, bobcats, golden eagles, red-tail hawks, and numerous other wildlife species which would be protected by wilderness designation.

Wilderness values would be degraded by 30 percent if development activities occur on valid mining claims. Of the 85 claims in the WSA, it is estimated that approximately 10 claims could prove to be valid. The area's natural appearance and scenic features would be degraded by access roads and mine dumps. Opportunities for solitude and primitive recreation would diminish in quality by 30 percent by the increased presence of man and vehicles and higher noise levels. Over half of the WSA has high and moderate potential for base and precious metals and fluorspar. Mining activities on valid claims would result in significant degradation of wilderness values, especially in the western portion of the WSA. The WSA also contains 139 acres of split-estate land along the western boundary. Development of the mineral estate would impact naturalness in this area. However, since the parcel is located on the edge of the WSA, any manageability problems associated with mineral exploration would be localized. However, unless economic conditions change or new data change the favorability classification, surface disturbing exploration and development are not projected for the WSA.

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Conclusion. Under the All Wilderness Alternative, the WSA's high quality naturalness, outstanding opportunities for solitude and primitive recreation, and special features would be maintained in the long-term. However, development of valid claims would degrade wilderness values in localized areas of the WSA. Overall, this development would affect less than 10 percent of the area.

2. Impacts on Exploration and Development of Nonenergy Minerals

Base and precious metals and fluorspar (mineral commodities on the National Defense Stockpile Inventory of Strategic and Critical Minerals) are known to occur in and around the Organ Mountains WSA and several mines along the west face of the Organ Mountains are patented. There has been production from these mines in the past. Under this alternative, development work, extraction, and patenting of mining claims existing in the Organ Mountains WSA as of the date of designation would be allowed if the claims are determined to be valid. At the present time, there are approximately 85 existing mining claims in the WSA. It is estimated that approximately 10 claims on the west side of the WSA would prove to be valid.

The mining companies may incur additional costs of operation during exploration or development activities on valid mining claims, depending on restrictions on the type and location of necessary access.

No new exploration, prospecting, or location of additional mining claims would be allowed after wilderness designation. Mineral trends could not be followed outside of the existing valid claim boundaries. Full development of the mining district could not take place under this alternative. Wilderness designation could affect opportunities for exploration and development in the following areas: 200 acres with high potential and 3,700 acres with moderate potential for lead, silver, copper, gold, zinc, molybdenum, and tungsten, and 100 acres with high potential for fluorspar.

Conclusion. Mineral development could occur on those claims found to be valid. The remainder of the WSA would be closed to mineral exploration and development. This could preclude full development of fluorspar or base and precious metals.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 6 head per section per year (1,003 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 8 miles of fences, 5 springs, and a dirt tank. New rangeland facilities are not planned. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, currently less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of

rangeland developments and other problems resulting from vehicle-dependent access.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. Amended Boundary (Proposed Action)

Under this alternative, 7,144 acres of public land within the Organ Mountains WSA would be recommended suitable. The amended boundary would exclude 139 acres of split-estate land (Federal surface and State subsurface) on the western edge of the WSA.

1. Impacts on Wilderness Values

If the area within the amended boundary is designated, all existing and potential uses would be managed under the BLM's Wilderness Management Policy (1981). Wilderness designation of the area within the amended boundary would provide Congressional protection for that portion of the WSA with the highest quality wilderness values. Under the Amended Boundary Alternative, the area's high quality naturalness would be maintained. The area could continue to be used for environmental studies by local schools since its close proximity to Las Cruces makes it ideal for such uses. In addition, the Organ Mountains form a scenic backdrop for approximately 100,000 residents in and around the Mesilla Valley. The area's outstanding opportunities for hiking, backpacking, photography, nature study, rock climbing, sightseeing, picnicking, and camping would be maintained in the long-term. The outstanding opportunities for solitude provided by the numerous canyons and ridges would be preserved. The WSA's special features include a variety of wildlife habitat types that support mule deer, mountain lions, bobcats, golden eagles, red-tail hawks, and numerous other wildlife species which would be protected by wilderness designation.

However, wilderness values would be degraded if development activities occur on valid mining claims. Of the 85 claims in the WSA, it is estimated that no more than 10 would prove to be valid. The area's natural appearance and scenic features would be degraded by access roads and mine dumps. Opportunities for solitude and primitive recreation would be degraded by the increased presence of man and vehicles and higher noise levels. Over half of the WSA has high and moderate potential for base and precious metals and fluorspar. Mining activities on valid mining claims would result in significant degradation of wilderness values, especially in the western portion of the WSA. However, unless economic conditions change or new data change the favorability classification, surface disturbing exploration and development are not projected.

Naturalness on the 139 acre split-estate parcel excluded under this alternative would be impacted by the exercise of private rights in the form of mineral exploration. While the development is not projected, surface values could be lost if the private rights are exercised.

Conclusion. Under the Amended Boundary Alternative, the WSA's high quality naturalness, outstanding opportunities for solitude and primitive recreation, and special features would be maintained in the long-term. Naturalness would be degraded on the 139 acres excluded.

2. Impacts on Exploration and Development of Nonenergy Minerals

Base and precious metals and fluorspar (mineral commodities on the National Defense Stockpile Inventory of Strategic and Critical Minerals) are known to occur in and around the Organ Mountains WSA and several mines along the west face of the Organ Mountains are patented. There has been production from these mines in the past. Under this alternative, development work, extraction, and patenting of mining claims existing in the Organ Mountains WSA as of the date of designation would be allowed if the claims are determined to be valid. At the present time, there are approximately 85 existing mining claims in the WSA. It is estimated that approximately 10 claims on the west side of the WSA would prove to be valid.

The mining companies may incur additional costs of operation during exploration or development activities on valid mining claims, depending on restrictions on the type and location of necessary access.

No new exploration, prospecting, or location of additional mining claims would be allowed after wilderness designation. Mineral trends could not be followed outside of the existing valid claim boundaries. Full development of the mining district could not take place under this alternative. Wilderness designation could affect opportunities for exploration and development in the following areas: 200 acres with high potential and 3,700 acres with moderate potential for lead, silver, copper, gold, zinc, molybdenum, and tungsten, and 100 acres with high potential for fluorspar.

Access for exploration and development on 139 acres of State mineral estate would not be restricted.

Conclusion. Mineral development could occur on those claims found to be valid and on the split-estate land. The remainder of the WSA would be closed to mineral exploration and development. This could preclude full development of fluorspar or base and precious metals.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 6 head per section per year (1,003 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 8 miles of fences, 5 springs, and a dirt tank. New rangeland facilities are not planned. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, currently less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but not impacts on existing livestock grazing use levels would occur.

C. No Wilderness

Under the No Wilderness Alternative, the entire 7,283 acres of public land in the Organ Mountains WSA would be recommended nonsuitable for wilderness designation. If the WSA is not designated wilderness, it would be managed according to the Southern Rio Grande Management Framework Plan (MFP)(BLM 1982) and the Las Cruces/Lordsburg MFP Amendment (BLM 1984). Both of these plans prescribe livestock grazing as a use of the area. The Las Cruces/Lordsburg MFP Amendment also allows energy mineral leasing in the area with a No Surface Occupancy stipulation. However, recreation has long been a major use of the Organ Mountains. In 1971, the Organ Mountains Recreation Lands (OMRLs) were designated. The primary aim of that designation was to enhance recreation use of the Organ Mountains. A recreation management plan was written and approved in 1971 and revised in 1985.

In addition, approval of the Las Cruces/Lordsburg MFP Amendment formally designated the Organ Mountains Scenic ACEC. All but 593 acres along the western periphery of the WSA are within the ACEC. The special management objectives and requirements of the ACEC designation are incorporated in the OMRLs Recreation Management Plan and include limiting ORV use to existing roads and trails; closing the area to plant collection and sale; withdrawing the area from mineral entry; allowing energy mineral leasing with a No Surface Occupancy stipulation; and managing the area as a Visual Resource Management Class I Area.

The ACEC would be withdrawn from saleable and locatable mineral entry subject to valid existing rights. There are approximately 85 mining claims in the ACEC. If the area is withdrawn from mineral entry, it is estimated that approximately 10 of the claims in areas of high and moderate mineral potential would prove to be valid and development would eventually occur. If the ACEC is not withdrawn from mineral entry or if the administrative withdrawal is later revoked, it is projected that mineral exploration and a low level of development would occur over much of the ACEC and the WSA.

Although the objectives of the ACEC and OMRLs Activity Plan are to protect and enhance the scenic and recreation values of the Organ Mountains, it is recognized that administrative designations would not be enforced as effectively as legislative (i.e., wilderness) designation. The administrative designations are subject to continued review, updating, and amending and are, therefore not recognized as providing the same assurance

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of long-term protection to the area's naturalness as would wilderness designation.

1. Impacts on Wilderness Values

Approximately 6,690 acres in the Organ Mountains WSA would be within the 8,947 acres administratively designated as the Organ Mountains Scenic Area ACEC. Since the objectives of the ACEC are to protect, to prevent irreparable damage, and to enhance scenic values, the ACEC would provide all but 593 acres along the west boundary of the WSA with administrative protection.

The enhancement provisions of the ACEC special management requirements would benefit the special scenic values of the WSA by requiring removal of the large gravel piles adjacent to the Stevenson-Bennett mine.

The mineral withdrawal would provide the natural values, outstanding opportunities for solitude and primitive recreation, and special ecological and scenic features in a major part of the WSA with some protection from the surface disturbance associated with mineral development. However, natural values could be degraded as described under the All Wilderness Alternative if exploration and development occurs on valid mining claims.

Conclusion. In the short-term, wilderness values would be substantially maintained as a result of managing the area as an ACEC. In the long-term, existing administrative protection is not expected to adequately protect wilderness values, resulting in a degradation of the area's wilderness character.

2. Impacts on Exploration and Development of Nonenergy Minerals

Under this alternative, the ACEC lands which include all but 593 acres of the WSA would be withdrawn from locatable mineral entry. Base and precious metals and fluorspar (mineral commodities on the National Defense Stockpile Inventory of Strategic and Critical Minerals) are known to occur in and around the Organ Mountains WSA and several mines along the west face of the Organ Mountains are patented. There has been production from these mines in the past. Under this alternative, development work, extraction, and patenting of mining claims existing in the ACEC as of the date of the mineral withdrawal would be allowed if the claims are determined to be valid. As of April 15, 1986, there were 85 existing mining claims in the WSA. It is estimated that approximately 10 claims on the west side of the WSA could prove to be valid. During development activities on valid mining claims, the companies may incur additional costs of operation depending on any restrictions on the type and location of necessary access.

No new exploration, prospecting, or location of additional mining claims would be allowed after mineral withdrawal. Mineral trends could not be followed outside of the existing valid claim boundaries. Full development of the mining district could not take place under this alternative. Mineral withdrawal could affect opportunities for exploration and development in the following areas: 200 acres with high potential and

3,700 acres with moderate potential for lead, silver, copper, gold, zinc, molybdenum, and tungsten, and 100 acres with high potential for fluorspar.

The 593 acres, including the split-estate parcel, outside the ACEC would remain open to mineral exploration and mining claim location. This area has moderate potential for base and precious metals.

Conclusion. Mineral development could occur on valid mining claims. All but 593 acres of the WSA would be closed to mineral entry precluding full exploration and development of the area's mineral potential.

3. Impacts on Livestock Grazing Use Levels

Livestock grazing use would continue at present levels, approximately 6 head per section per year (1,003 AUMs). Rangeland facilities to support this level of use could be maintained as needed without consideration for protecting wilderness values. Vehicular access would be allowed as needed subject to the prohibition of off-road vehicle travel of the Organ Mountains Recreation Lands plan. New rangeland developments could be installed if needed to meet grazing management objectives for the area.

Conclusion. There would be no impacts to livestock grazing use levels under this alternative.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Personal letters, form letters, and petitions were received on the Organ Mountains unit during the public comment periods on the New Mexico Wilderness Review Initial Inventory Decisions (BLM 1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980). Maps were included with the comments.

Approximately 71 percent of the personal letters favored wilderness review of the area. Supporting reasons listed lack of roads, few imprints of civilization, excellent recreation and solitude, interesting terrain, and the supplemental values of endangered species as justification for further wilderness study. Other comments pointed out that wilderness areas near population centers are needed and that the Organ Mountains need protection.

Approximately 29 percent of the personal letters opposed wilderness review of the area. Imprints of man's activities, lack of outstanding opportunities for solitude or primitive recreation, presence of roads, and mining conflicts were given as reasons for opposing further wilderness review.

During the public comment period on the Draft Environmental Assessment Wilderness Study Areas in Las Cruces District (BLM 1983), 26 personal letters and 17 form letters were received indicating support for wilderness designation of the Organ Mountains WSA. Nine personal letters opposing wilderness designation were submitted.

Five of the personal letters in favor of wilderness for the Organ Mountains listed no supporting reasons. Most of the specific comments favoring wilderness designation in both the personal and form letters reiterated BLM's rationale for recommending the Organ Mountains WSA suitable. Major supporting reasons included high quality wilderness values, scenic values, diverse wildlife habitat and plant communities, potential desert bighorn sheep habitat, and scientific and educational values. The New Mexico Natural History Institute, whose primary interest is in building a system of natural areas for New Mexico, indicated full support for wilderness designation of the Organ Mountains, adding, "This is a very important area in state natural area planning because of rare species and other characteristics well discussed in the DEA."

Comments on the potential manageability of the area included: good access and boundary configuration, contiguous New Mexico State University land enhances manageability, and acquisition of adjacent private land should have a high priority. Pro-wilderness comments regarding resource conflicts generally supported BLM's judgment that the wilderness values of the Organ Mountains are more important than mineral values. A number of comments asserted that the Organ Mountains WSA should be designated wilderness because of its proximity to Las Cruces and other urban areas and that preservation of the area will become more significant as these areas grow.

Comments on the No Action (ACEC) Alternative varied. A number of comments indicated support for both wilderness and the Organ Mountains Scenic ACEC, stating that the two designations would offer the best protection from mining activities. The New Mexico State Heritage Program suggested that an ACEC to protect the endemic molluscs in the Organ Mountains might be appropriate in lieu of wilderness designation. The State Department of Agriculture stated, "It is our opinion that the special designation as an ACEC would be adequate in protecting the outstanding qualities of both areas without completely removing the availability of certain range improvement techniques which would enhance the resources ... we recommend the No Action Alternative"

Comments in the nine personal letters opposing wilderness designation of the Organ Mountains WSA primarily focused on the mineral potential of the area. These comments included the following reasons: strategic minerals are known to occur in the WSA; there has been mineral production in the past; and the number of claims and assessment work in the area is evidence of the strong interest in the mineral potential of the Organ Mountains. Other comments observed; "The fact that the area had to be cut up with cherry-stems to exclude some patented mining claims and a large area left in the center for the same reason, should make the mineral potential obvious", and "In these times of depressed economic activity, ... area cannot be profitably mined, ... doesn't mean that this condition will last forever." Another comment stated that the area of mineral potential in the Organ Mountains "is well below the beautiful peaks of the Organs and will in no way adversely affect them or disturb their beauty."

Detailed information on proven and indicated reserves of ore and the grade of fluorspar at the Ruby mine and associated unpatented claims was submitted, as well as a list of uses for fluorspar and a copy of a letter to the BLM Director nominating the Organ Mountains as an Area of Critical Mineral Potential. Information regarding the Modoc mine, which is south of the WSA, and two geological reports (Dunham 1935, reprinted 1980; Seager, 1980) were also submitted.

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico Wilderness Coalition. Alternative W included the Organ Mountains WSA and recommended wilderness designation for the entire WSA plus additional acreage. Forty-one commentators specifically addressed the Organ Mountains WSA; 37 of these supported wilderness designation and 4 opposed it.

During public scoping on the split-estate issue held in early 1986, 7 commentators specifically favored the addition of split-estate to the affected WSAs and 5 commentators opposed it.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Organ Mountains WSA by 45 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

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Public Review of the Revised Draft EIS

No. 0038

Name(s): Terry Eskey

Comment: "The whole Organ Mountain range should be a wilderness area. The part that WSMR owns can be a WSMR wilderness area. But this mountain range needs to be preserved."

Response: BLM agrees that the Organ Mountains should be protected as much as possible either through wilderness designation or other protective designation. At the present time, BLM is working on a series of land exchanges to block-up Federal ownership in the Organ Mountains.

The southeastern portion of the Organ Mountains is within the Fort Bliss Military Reservation and is not public land subject to management by BLM. Consequently, this area was not inventoried nor studied for wilderness values. BLM has approached Fort Bliss about relinquishment of the withdrawn land in the Organ Mountains, however, Fort Bliss was not receptive to the idea. The potential relinquishment of this land will be considered in detail during BLM's withdrawal review process.

If at some future date, BLM acquires additional State, private, or military lands in the Organ Mountains, BLM would inventory the land. If it was determined that the land possessed wilderness values, BLM would formally study it and, depending on the result of that study, would then make a recommendation as to the suitability of the area as wilderness.

* * * * *

No. 0100-1

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The final difference in the Coalition proposal and the BLM recommendation concerns the new amended BLM boundary, which excludes 139 acres of split-estate lands along the western boundary. The justification given for this action is to eliminate resource conflicts arising from potential exploration of the privately owned mineral rights in an area that the BLM states as having 'marginal wilderness values.' The potential for base and precious metals in this area is classified as moderate. While 139 acres may not seem significant, a large mining operation on this land would have an extremely negative impact on the outstanding vistas from most of the west side of the WSA."

No. 0100-1 (concluded)

Response: BLM has reconsidered this area and determined that the subsurface estate is owned by the State of New Mexico. It has been added to the suitable recommendation. The Proposed Action for the Organ Mountains WSA is now the All Wilderness Alternative. BLM is currently working with the New Mexico State Land Office to exchange State-owned surface and subsurface in the Organ Mountains.

No. 0100-2

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "A third outstanding area lies southwest of the military lands and encompasses the rest of the south end of the Organs and a portion of the facing slope. The mountainous portion includes such unique areas as Squaw Mountain, Achenback Canyon, and Pena Blanca, all quite different from the areas found in the WSA. The west base of the mountains remains some of the last natural Lower Sonoran Life Zone in the Organs. With the continued growth of Las Cruces, especially on the East Mesa, it is extremely important to preserve a portion of this ecotype before it is all developed.

Land status in this area is a combination of BLM, State, and private lands. Already a small area of private land at the base of Soledad Canyon is being developed. Thus, if we are to protect the rest of the facing slope, we must encourage BLM to acquire the rest of these private and State lands immediately and encourage Congress to designate them as wilderness."

Response: The Achenback Canyon area was identified as wilderness inventory unit NM-030-73 during the initial inventory. The unit was dropped from further inventory and study by the New Mexico Wilderness Review, Initial Inventory Decision (July 1979). In that document, the unit was included in the Category 2 Lands. These were lands that the BLM previously recommended be dropped from further wilderness consideration and for which there was unanimous public agreement. The BLM recommendation was based on the lack of naturalness, lack of outstanding opportunities for solitude and primitive and unconfined recreation, and a lack of special features in the area due to the presence of roads, powerlines, rangeland developments, and interspersed State and private lands.

BLM agrees that the Organ Mountains should be protected as much as possible and has prescribed special management for portions of the mountain range. Much of the south end and the southwestern slopes of the Organ Mountains are within the designated Organ Mountains Recreation Lands (OMRLs). The primary management objectives for the ORMLs are to preserve the natural and scenic qualities of the area and to enhance the quality of recreation experience available in the area.

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No. 0100-2 (concluded)

The BLM recently recently acquired several sections of State land in the Organ Mountains. BLM is continuing to work on other land exchanges to block-up public land in the Organ Mountains. Special management needs for these acquired areas will be considered in the Las Cruces/Lordsburg Resource Area Resource Management Plan scheduled to begin in 1988.

No. 0100-3

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The BLM agrees that the ACEC area contains most of the wilderness attributes found in the nearby WSA, but is not recommending wilderness designation for the area because it is less than 5,000 acres and is not directly connected to the WSA. The only lands separating this area from the rest of the WSA are 2,089 acres that were given to New Mexico State University under a grant agreement for scientific and educational purposes. While current university uses of the land do not impair its wilderness value, non-BLM ownership of the land is precluding the area to the east from being recommended for wilderness. The Coalition recommends that the university land be acquired by purchase or trade and that it and the adjacent BLM lands be designated wilderness."

Response: The Sugarloaf Peak/Indian Hollow area was never identified as an inventory unit since it represents less than 5,000 acres of public land. As a result, this area was never inventoried or studied to determine its wilderness qualities. The 2,089 acres separating this area from the WSA were granted to New Mexico State University in 1938 under the Recreation and Public Purposes Act. Under the terms of that grant, if the land was not used by the University for scientific and educational purposes, the land would revert to BLM.

If at some future date, the land granted to the University reverts back to BLM, BLM would inventory the land to determine if it possesses wilderness values. If it does, BLM would formally study the area and depending on the result of that study, would then make a recommendation as to the suitability of the area as wilderness.

No. 0100-4

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The area proposed by the BLM in the 1986 WAR was constrained in size by New Mexico State University and military lands to the south. The Coalition feels that limiting wilderness protection in the Organ Mountains to the area inside the amended boundary will not provide for the long-term protection that the Organ Mountains bioregion deserves.

The Coalition has identified several other vital areas in the region. . . the first area consists of 1,760 acres of BLM land located southeast of the WSA and encompasses Sugarloaf Peak and Indian Hollow. This area is recommended in the WAR for designation as a scenic Area of Critical Environmental Concern (ACEC). Such protection is far inferior to wilderness protection in that many environmentally degrading activities, such as mining, can still occur. Also, ACEC designations are made on a local district level and can be changed at any time, whereas wilderness is designated by Congress and cannot be changed without another Act of Congress."

Response: The Organ Mountains Scenic ACEC, which includes Sugarloaf Peak and Indian Hollow, was designated in the Record of Decision for the Las Cruces/Lordsburg Management Framework Plan Amendment, May 1984. BLM agrees that ACEC designation is no substitute for wilderness designation, and that the latter provides greater long-term protection for an area. While ACEC designations are made and can be changed at the local district level, such changes require preparation of a new land use plan or at least an amendment to the one which made the original designation. In both cases, public involvement, i.e., public scrutiny of the various proposals, is a required part of the process.

* * * * *

No. 0120

Name(s): Ben Schaberg, Cougar Fluorspar Corporation

Comment: "In presenting the question to the public of closing the entire area as a wilderness, the importance of mineralization on the slopes should be made known. It is in the public interest to be informed of the strategic mineralization of the area. A multiple use program for the area would meet the needs of all concerned. Areas of the Organ Peaks could be designated as wilderness with the mineralized slopes left open for mining, grazing and recreation purposes."

ORGAN MOUNTAINS

No. 0120 (concluded)

Response: The Organ Mountains Wilderness Analysis Report (WAR) provides the public all the information on mineralization of the Organ Mountains that is available to BLM. Included is a discussion of the production history of the mines in the area. Table 3 of the WAR identifies those minerals on the National Defense Stockpile Inventory of Strategic and Critical Minerals that have potential for occurrence in the Organ Mountains. The U.S. Geological Survey and Bureau of Mines are conducting mineral surveys in the WSA. If significant new information is presented in the survey reports, this EIS will be amended to incorporate that information.

BLM feels that the slopes of the mountains are an integral part of the WSA and necessary for the manageability of the area as wilderness. Grazing and nonmechanized recreation can continue in the area after wilderness designation. BLM feels that due to the location of the mountains and their scenic and recreational importance to Las Cruces, the value of the area as wilderness is capable of balancing the other uses that would be foregone as a result of wilderness designation including mineral development.

* * * * *

No. 0274

Name(s): D. Schuhmann

Comment: "My first concern, as a resident of the Las Cruces area, is that there would be no wilderness areas designated near Las Cruces even though there are several WSAs that apparently have been dropped from consideration. Las Cruces is a rapidly growing area, and while many would argue that because of this, we need to make available all the land we can for growth and expansion, I believe that we need to establish some wilderness areas so that people in Las Cruces and the surrounding areas can have a wilderness experience without having to go over 100 miles to get there."

Response: Under the Proposed Action, the Organ Mountains WSA, the Aden Lava Flow WSA, and the West Potrillo Mountains and Mount Riley WSAs are all recommended suitable for wilderness designation. All of these WSAs are within 30 miles of Las Cruces.

* * * * *

No. 0564

Name(s): Charles S. Watson, Nevada Outdoor Recreation Association

Comment: "The acquisition of military lands (i.e., the cessation of the withdrawal) adjacent to the Organ Mountains WSA to enlarge the proposed wilderness is clearly essential. Our 1983 visit there revealed it is already highly popular with El Paso and Las Cruces recreationists and hikers. These military lands have outstanding Chihuahuan Desert pristine character, and must be included into the BLM's recommendations."

Response: BLM agrees that the Organ Mountains should be protected as much as possible either through wilderness designation or other protective designation. At the present time, BLM is working on a series of land exchanges to block-up Federal ownership in the Organ Mountains.

The southeastern portion of the Organ Mountains is within the Fort Bliss Military Reservation and is not public land subject to management by BLM. Consequently, this area was not inventoried nor studied for wilderness values. BLM has approached Fort Bliss about relinquishment of the withdrawn land in the Organ Mountains, however, Fort Bliss was not receptive to the idea. The potential relinquishment of this land will be considered in detail during BLM's withdrawal review process.

If at some future date, BLM acquires additional State, private, or military lands in the Organ Mountains, BLM would inventory the land. If it was determined that the land possessed wilderness values, BLM would formally study, and depending on the result of that study, would then make a recommendation as to the suitability of the area as wilderness.

APPENDIX 39

ROBLEDO MOUNTAINS WSA (NM-030-063)

I. GENERAL DESCRIPTION

A. Location

The Robledo Mountains Wilderness Study Area (WSA) is located in central Dona Ana County. The WSA is approximately 8 miles northwest of Las Cruces, New Mexico, on the west bank of the Rio Grande.

The U.S. Geological Survey (USGS) topographic map covering the WSA is the Las Cruces, New Mexico quadrangle at the 15-minute scale.

B. Climate and Topography

The Robledo Mountains WSA is characterized by an arid, continental climate with mild winters and pleasant to hot summers.

Average annual precipitation in the area is slightly less than 9 inches, however, a wide variation in annual totals is characteristic of arid climates. More than half of the total annual precipitation occurs from July to September. Rainfall during these months usually is from convective thundershowers that are commonly brief and intense.

During the summer months, daytime temperatures quite often exceed 100°F. The average monthly maximum temperature during July, the warmest month, is in the middle 90's. In January, the coldest month, average monthly minimum temperature is in the middle 20's.

Winds generally predominate from the southeast in summer and from the northwest in winter. Wind speeds are usually moderate. Spring is the windy season. Dry, gusty winds are predominantly from the west-southwest and may exceed 30 mph in the afternoons.

This WSA contains most of the Robledo Mountains, a north-south trending fault block. Lookout Peak and Robledo Mountain are the prominent topographic features in the WSA. Maximum and minimum elevations within the WSA are about 5,876 feet and 4,300 feet, respectively. The WSA is characterized by rugged, steep canyons and southward dipping cuerdas.

C. Land Status

The WSA contains 12,946 acres of public land including 135 acres of split-estate land, (Federal surface, non-Federal subsurface). There are no private or State surface holdings within the WSA boundary. (See Map 39-1 for land status within the WSA boundary.)

ROBLEDO MOUNTAINS WSA (NM-030-063)

Proposed Action-No Wilderness Alternative

MAP 39-1 LAND STATUS

Legend

— WSA BOUNDARY

Land Status

BLM

PRIVATE

STATE

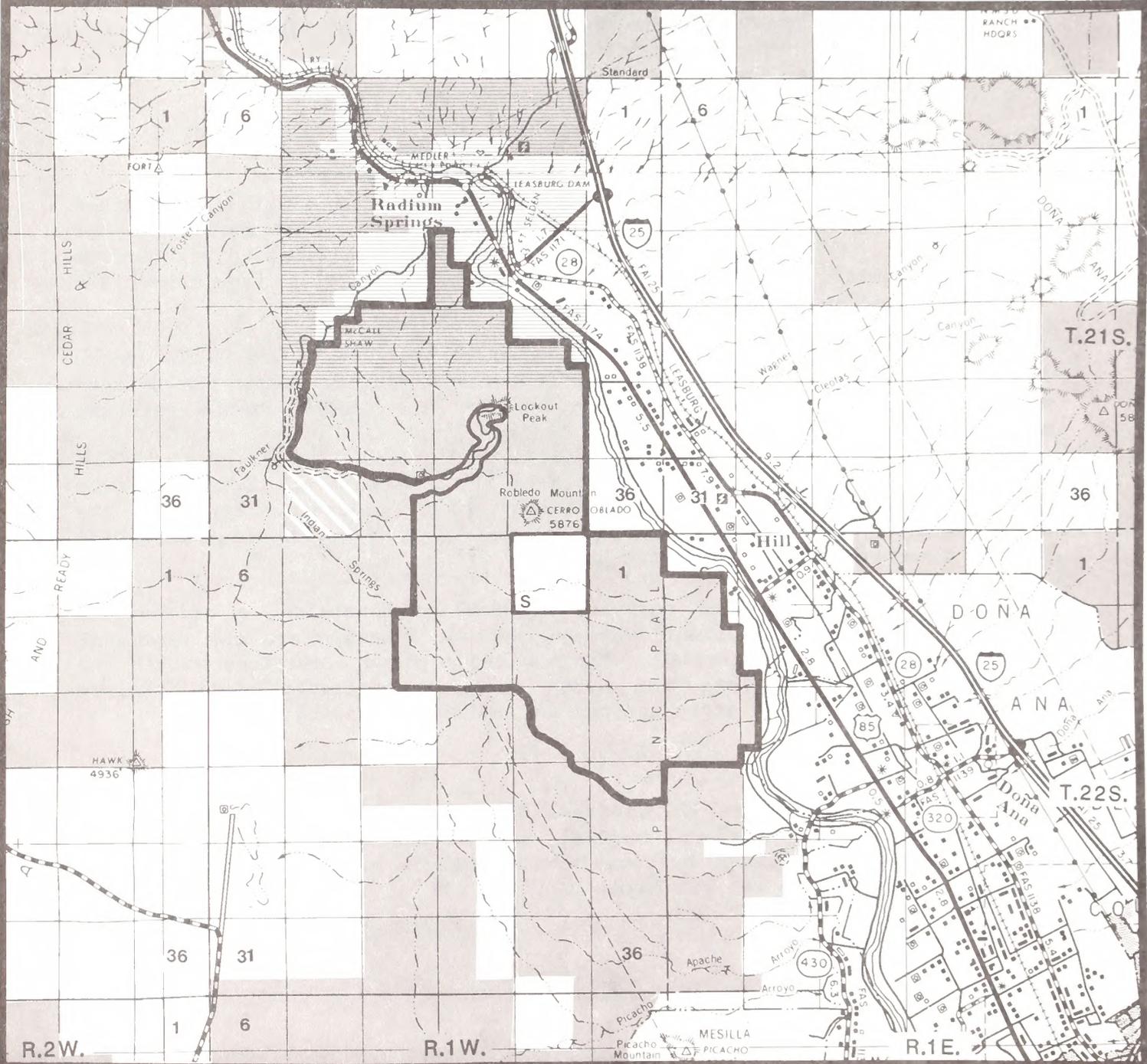
BLM SURFACE/NON BLM SUBSURFACE



Radium Springs KGRA

Scale: 1/2 Inch = 1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



D. Access

There is no legal access to the Robledo Mountains WSA. County Road D59, which branches south off of State Highway 85 about $\frac{3}{4}$ of a mile west of Radium Springs, crosses the State section on the northern boundary of the WSA. Physical access is available by hiking about $\frac{1}{2}$ mile south from D59 to the north boundary of the WSA.

Physical access to the southern boundary of the WSA is available by four-wheel drive trails branching off of State Highway 430.

E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A description of those actions associated with the proposal and alternatives is provided in Table 1. The proposed action for the Robledo Mountains WSA is the No Wilderness Alternative. Resource conflicts and the marginal quality of the area's wilderness values are the primary reasons for this recommendation. The Robledo Mountains have low potential for geothermal energy, however, the north part of the WSA is within the Radium Springs Known Geothermal Resource Area (KGRA). The WSA also has high potential for high calcium limestone and building stone. Wilderness qualities of the WSA are not exceptional. Naturalness is impacted by a road and communication facilities. Primitive recreation opportunities in the WSA are limited.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Conducting a Detailed Analysis
Enlarging the WSA	The New Mexico BLM Wilderness Coalition proposed adding approximately 81,000 acres to the WSA. This alternative was not evaluated further because the added area was part of the original inventory unit and was found to contain numerous intrusions and did not meet the wilderness criteria.

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on the Following Threatened or Endangered Species: Federally-listed Endangered—Bald Eagle, Peregrine Falcon; and State-listed Endangered—Trans Pecos Rat Snake, Night Blooming Cereus.	The U.S. Fish and Wildlife Service has concurred with BLM's finding of no affect on species Federally-listed or proposed for listing as threatened or endangered. An analysis of potential impacts to threatened or endangered species would be required for any proposed surface disturbing activities.
Impacts on Cultural Resources	Cultural resources were not selected for detailed analysis because the known sites are away from projected development areas. A detailed site analysis and mitigation would be required for any proposed surface disturbing activities.
Impacts on Elephant Butte Irrigation District (EBID) Right-of-Way (ROW)	In 1977, EBID applied for a ROW for a flood control structure on Faulkner Canyon. As of June 1, 1986, the ROW had not been granted and no further action has been taken, therefore no impacts have been identified.

Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	12,946 acres were identified during the inventory as having wilderness values.
No Wilderness (Proposed Action)	The No Action Alternative required by NEPA.

Environmental Issues Selected for Detailed Analysis
Issues identified for this WSA are the impacts on the quality of the area's wilderness values, impacts on exploration and development of geothermal resources, high-calcium limestone, magnesium, and building stone, and impacts on livestock grazing use levels.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	No Wilderness (Proposed Action)
<p>°MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 12,946 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>°MANAGE 12,946 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>
<p>-Attempts would be made to acquire 640 acres of State land surrounded on three sides by the WSA.</p>	<p>-No special attempts would be made to acquire adjacent non-Federal lands.</p>
<p>-Close 2 miles of vehicle ways which currently receive low use (less than 100 vehicles per year).</p>	<p>-Vehicle use would be allowed to continue on existing vehicle ways. Total vehicle use is estimated to be less than 100 vehicles per year.</p>
<p>-12,811 acres of Federal mineral estate would be closed to oil and gas and geothermal leasing, mining claim location, and mineral material sale. This includes 2,000 acres in the Radium Springs KGRA, 200 acres moderate potential magnesium, 1,300 acres high potential building stone, and 3,700 acres high potential high-calcium limestone.</p>	<p>-12,811 acres of Federal mineral estate would be open to oil, gas, and geothermal leasing, mining claim location, and mineral material sales. This includes 200 acres moderate potential magnesium, 1,300 acres high potential building stone and 3,700 acres high potential high-calcium limestone. Building stone permits would total 30 to 50 sales per year in areas of high potential, which would result in annual surface disturbance of 5 to 10 acres. Magnesium exploration would result in 5 to 10 drill holes in areas of moderate potential and low level development would result in 2 to 5 acres of surface disturbance. Exploration for high-calcium limestone would result in 15 to 30 drill holes in areas of moderate potential and development would result in an additional 10 to 20 acres of surface disturbance. Exploration and development for magnesium and high-calcium limestone would result in a total surface disturbance of up to 100 acres. There would also be an additional 3 to 6 miles of new access roads.</p>
<p>-Reasonable access to 135 acres of subsurface estate would be permitted with consideration for protecting wilderness values. The need for access is not likely due to low mineral potential.</p>	<p>-Surface access to 135 acres of subsurface estate would be provided without consideration of wilderness values.</p>
<p>-Current livestock grazing levels of approximately 6 head per section per year (1,102 AUMs) would continue.</p>	<p>-Current livestock grazing levels of approximately 6 head per section per year (1,102 AUMs) would continue.</p>
<p>-Require a permit for vehicular access to maintain 1 dirt tank and 7 miles of fence. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.</p>	<p>-Restrictions on vehicular access for maintenance of rangeland developments would not apply. Access for inspection and maintenance would be allowed as needed without restrictions.</p>
<p>-1½ miles of allotment boundary fence (between F. Burke (3008) and Cohorn and Johnson (3040)) could be constructed if nonimpairing and necessary for wilderness or rangeland protection. Maintenance of the fence using motorized vehicles or motorized equipment would be prohibited.</p>	<p>-Construction and maintenance of 1½ miles of allotment boundary fence could occur without restriction. Construction is likely in the long-term.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues	
	Impacts On Exploration and Development of Geothermal, Building Stone, Magnesium, and High-Calcium Limestone	Impacts On Wilderness Values
All Wilderness (12,946 acres)	Opportunities for exploration and development activities would be forgone in the following areas: 2,000 acres within the Radium Springs KGRA, 200 acres with moderate potential for magnesium, 3,700 acres with high potential for high-calcium limestone, and 1,300 acres with high potential for building stone.	Wilderness designation would protect the natural character of the grass and desert shrub dominated mountain range, opportunities for solitude, the raptor nesting habitat and caves along the limestone cliffs and the prehistoric resources associated with the pithouse village sites.
No Wilderness (12,946 acres) (Proposed Action)	No significant impact.	Mineral exploration and development would result in up to 500 acres of surface disturbance and the addition of 3-6 miles of new roads to the area. These actions would adversely affect wilderness values, especially naturalness and opportunities for solitude in approximately 40 percent of the WSA. Increased vehicle use as a result of the additional road development would degrade the area's outstanding opportunities for solitude and would further degrade the area's primitive recreation opportunities.

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The Robledo Mountains WSA lies within the Basin and Range physiographic province. This province is characterized by fault block mountains separated by basins filled with alluvial and shallow lake deposits.

The Robledo Mountains are an uplifted fault block within the Rio Grande rift. The mountains are bound on the east and west by northeast trending faults. There are several smaller transverse faults occurring within the Robledo Mountains.

The mountains consist chiefly of Paleozoic sedimentary and Cenozoic igneous rocks. The sedimentary rocks are primarily limestone, dolomite, shale, and siltstone. The igneous rocks include a few basalt cinder cones and plugs in the southern part of the Robledo Mountains and a Tertiary intrusive rhyolite sill in the northern part.

B. Water

The Robledo Mountains WSA forms part of the boundary between the southern Jornada del Muerto and the Mesilla Valley. Both basins contribute to the larger Rio Grande Basin.

Surface water within the WSA drains into the Rio Grande Basin through an ephemeral stream system. Principal drainages include Faulkner, Indian Springs, and Apache Canyons. Surface flow generally occurs as a result of summer thundershowers.

Ground water moves into the Rio Grande Valley from the uplands to the valley border and then moves down the valley. Ground water is available primarily in the alluvial fill down gradient from the WSA. Significant recharge to the ground water reservoir occurs in Faulkner Canyon during flood runoff. Ground water quality is within recommended limits for livestock and wildlife use, as established by the National Academy of Sciences (BLM 1980).

C. Soils

Two major soil types occur within the Robledo Mountains WSA. On mountain tops and steep sideslopes, soils are shallow, stony, and are interspersed between areas of limestone outcroppings. On footslopes and alluvial fans at the base of the mountains, slopes are more gentle. The soils typically are deeper, have a gravelly surface, and a subsurface layer high in calcium carbonates (caliche).

D. Vegetation

1. General

The vegetation and associated range sites within the Robledo Mountains WSA consist of three major types:

ROBLEDO MOUNTAINS

Vegetation Type	Range Site	Federal Acres
Grass-mixed desert shrub	Mountains	9,060
Creosote	Gravelly	2,688
Mixed desert shrub	Gravelly sand	1,198

Grass species (black grama, tobosa, other gramas, and fluffgrass) exchange dominance with mixed desert shrub species such as creosote, tarbush, ocotillo, mariola, sotol, spicebush, acacia, sumac, yucca, and cacti in the Robledo Mountains. A few scattered juniper trees are also present.

Creosote gravelly areas occur on both sides of the mountain range in the flats. Other shrub species include mariola, tarbush, and mesquite. Fluffgrass is the only common grass species.

Shrub species on gravelly sand in sandy arroyos include brickelbush, desert willow, creosote, mesquite, and tarbush. Associated grass species are fluffgrass and tobosa.

2. Rare Plant Species

The following species was identified and located in or near the WSA (NMSHP and USFWS 1982).

Species: Cereus greggii - night blooming cereus
Status: Listed as endangered by the State of New Mexico; candidate for Federal listing.
Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

E. Wildlife

1. General

Nearly half of the Robledo Mountains WSA is a mixed shrub mountain habitat site with a large area of grass. Small portions along the outside edges are creosote foothills and creosote breaks.

There are several special habitat features that enhance the value of the WSA for wildlife. The limestone cliffs are pocketed with caves which are used by many animals. Bats roost in these caves and larger animals use them for shelter. Golden eagles and other raptors also nest on these cliffs. Whitewash (droppings from raptors) indicate that many birds roost on the cliffs overlooking the river.

The nearness of the Rio Grande is also significant to wildlife in the WSA. Mule deer and other large mammals can water there and move back up the canyons into the WSA. Mule deer numbers in the area are low.

Bird life is fairly varied because there are four different habitat sites within the WSA and a fifth one, riparian (the Rio Grande), close by. Some birds which use the Rio Grande as a migration route may occasionally stop over in the WSA.

2. Threatened or Endangered Fauna Species

Some of the birds which may occasionally use the WSA are Federal-endangered species, such as the bald eagle and the peregrine falcon. However, these birds do not depend on the WSA as crucial habitat and are only transitory in the WSA.

A State-listed endangered species which is known from the area is the Trans-Pecos rat snake. Collecting is the main threat this species faces. Its preferred habitat is rocky areas supporting shrubby vegetation, which is typical of much of the WSA.

F. Visual

The Robledo Mountains WSA has a Class B scenic quality rating or a moderate rating. The Robledo Mountains reach a maximum elevation of 5,876 feet. Banded blocky outcrops are characteristic of upper elevations with fan and fluvial deposits forming downward sloping rounded hills at lower elevations. The entire landform tilts southward. Landform colors are banded with alternate light and dark reddish browns. Vegetation is sparse and irregular in colors of dark creosote green and lighter gray greens and tans.

Portions of the Robledo Mountains WSA are in two Visual Resource Management (VRM) Classes as follows: Class II-6,668 acres, Class III-6,278 acres.

G. Cultural

There are 20 known historic and prehistoric sites in and along the boundaries of the Robledo Mountains WSA. The most significant and unique of these sites are small caves and pithouse village sites that are undisturbed. In addition, there is a 10 room pueblo in the WSA. This WSA contains high potential for significant prehistoric resources. The major historic site in the WSA is a heliograph station on top of Lookout Peak, established in the early 1880's to communicate with similar stations about Apache activities. A portion of the station still remains on top of Lookout Peak.

H. Air

Generally, the quality of air within the Robledo Mountains WSA is good. The air quality in the WSA does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

ROBLEDO MOUNTAINS

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.



The east side of the Robledo Mountains WSA.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The mineral resource potential of the WSA is shown on Map 39-2 and Table 3. Locations of lands under mineral leases are shown on Map 39-3.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE ROBLEDO MOUNTAINS WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*
Energy Minerals			
Oil and Gas	Paleozoic sediments	Low	--
Geothermal	Tertiary rhyolite sill; Rio Grande rift; proximity to known occurrence	Low	--
Nonenergy Minerals			
Sand and Gravel	Terraces above Rio Grande Valley	Low	--
Building Stone	Limestone	High	1,300
Magnesium	Ordovician Upham domite and Silurian Fusselman dolomite	Moderate	200
High-Calcium Limestone	Pennsylvanian limestones	High	3,700
Manganese ^{a/}	Small, sporadic, low-quality occurrences near WSA	Low	--
Iron	Hematite, goethite in Iron Hill deposits $\frac{1}{2}$ mile southwest of WSA	Low	--

Notes: *Acreage was not calculated for areas with low potential.

^{a/}Listed on the National Defense Stockpile Inventory of Strategic and Critical Minerals.

1. Energy Minerals

As of April 15, 1986, there was one post-Federal Land Policy and Management Act (FLPMA) geothermal lease encompassing 1,120 acres in the WSA.

ROBLEDO MOUNTAINS

a. Geothermal

There are no known geothermal occurrences in the Robledo Mountains WSA. Although, the extreme northern portion of the WSA in T. 21 S., R. 1 W., Sections 15, 20, 21, 22, and 23, lies within the Radium Springs Known Geothermal Resource Area (KGRA). (See Map 39-1 for general location of the KGRA.) Geothermal resources are known to occur at the former Radium Hot Springs resort, about 1 mile northeast of the WSA, where hot water was pumped from a rhyolite sill. This sill is also present in the northern portion of the WSA. Hunt Energy drilled two deep geothermal test wells 2 miles north of the WSA in 1980 and found water temperatures to be about 200°F. However, west of the Rio Grande, heat flow data acquired by Hunt Energy shows no evidence of any anomalies in the vicinity of the WSA. This is a significant contrast to the known geothermal resources which occur eastward from the Robledo Mountains in the Radium Springs area. Even though geothermal resources occur only a mile northeast of the WSA, the absence of a heat flow anomaly in the northern portion of the Robledo Mountains suggests that the WSA has low geothermal potential.

b. Oil and Gas

The nearest oil and gas test well is the Sinclair No. 1 Federal, about 2 miles southwest of the WSA in T. 22 S., R. 1 W., Section 27, NW¼. This well was drilled to a depth of 6,510 feet and was a dry hole. The bottom of the hole is in a rhyolite sill. At the present time, the potential for oil and gas occurrences within the WSA appears to be low due to absence of good petroleum source rocks and other geologic indicators. However, further prospecting and exploration are needed to fully assess this potential.

2. Nonenergy Minerals

As of April 15, 1986, there were no mining claims recorded with BLM in the WSA.

a. Magnesium

Kottlowski (1957) reports that the Robledo Mountains contain a large volume of high-purity dolomite. About 4.5 million tons are reported to occur in the Ordovician Upham dolomite and 18 million tons in the Silurian Fusselman dolomite. Chemical analyses show that the Upham dolomite contains 44.9 percent magnesium carbonate and that the Fusselman dolomite contains 45.5 percent magnesium carbonate. These dolomites are potential sources of magnesium. However, U.S. magnesium reserves are large and domestic production would probably continue to be met by existing producers for a long time. For this reason, the potential for occurrence of magnesium is only moderate.

b. High-Calcium Limestone

Kottlowski (1962) reports the occurrence of high-calcium limestones in the Robledo Mountains. Cliff forming high-calcium limestones of Pennsylvanian age crop out in the north central part of the WSA. However,

ROBLEDO MOUNTAINS WSA (NM-030-063)

Proposed Action-No Wilderness Alternative

MAP 39-2

MINERAL RESOURCE POTENTIAL *

Legend

— WSA BOUNDARY

Land Status

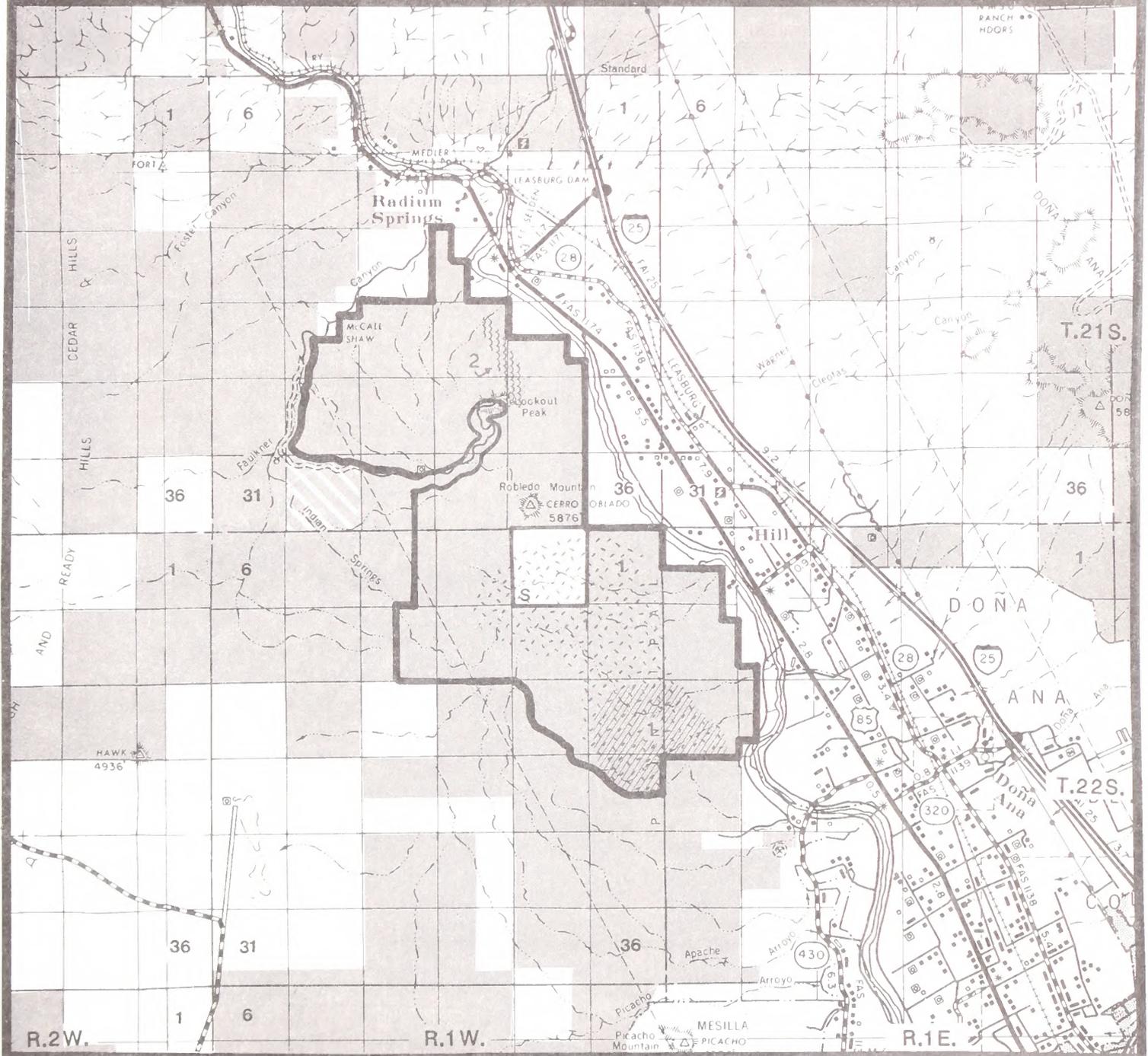
- BLM
- PRIVATE
- STATE
- BLM SURFACE/NON BLM SUBSURFACE

Scale: 1/2 inch = 1 mile

- Building Stone
- High Calcium Limestone
- Magnesium

* Areas of high (1) and moderate (2) mineral potential are shown for lands within the WSA except for split-estate land; the potential may extend onto the split-estate land and outside the WSA boundary. Areas of low potential are not shown.

Source: USDI, BLM, Las Cruces District, April, 1986.



ROBLEDO MOUNTAINS WSA (NM-030-063)

Proposed Action-No Wilderness Alternative

MAP 39-3 MINING CLAIMS AND MINERAL LEASES*

Legend

— WSA BOUNDARY

Land Status

BLM

PRIVATE

STATE

BLM SURFACE/NON BLM SUBSURFACE

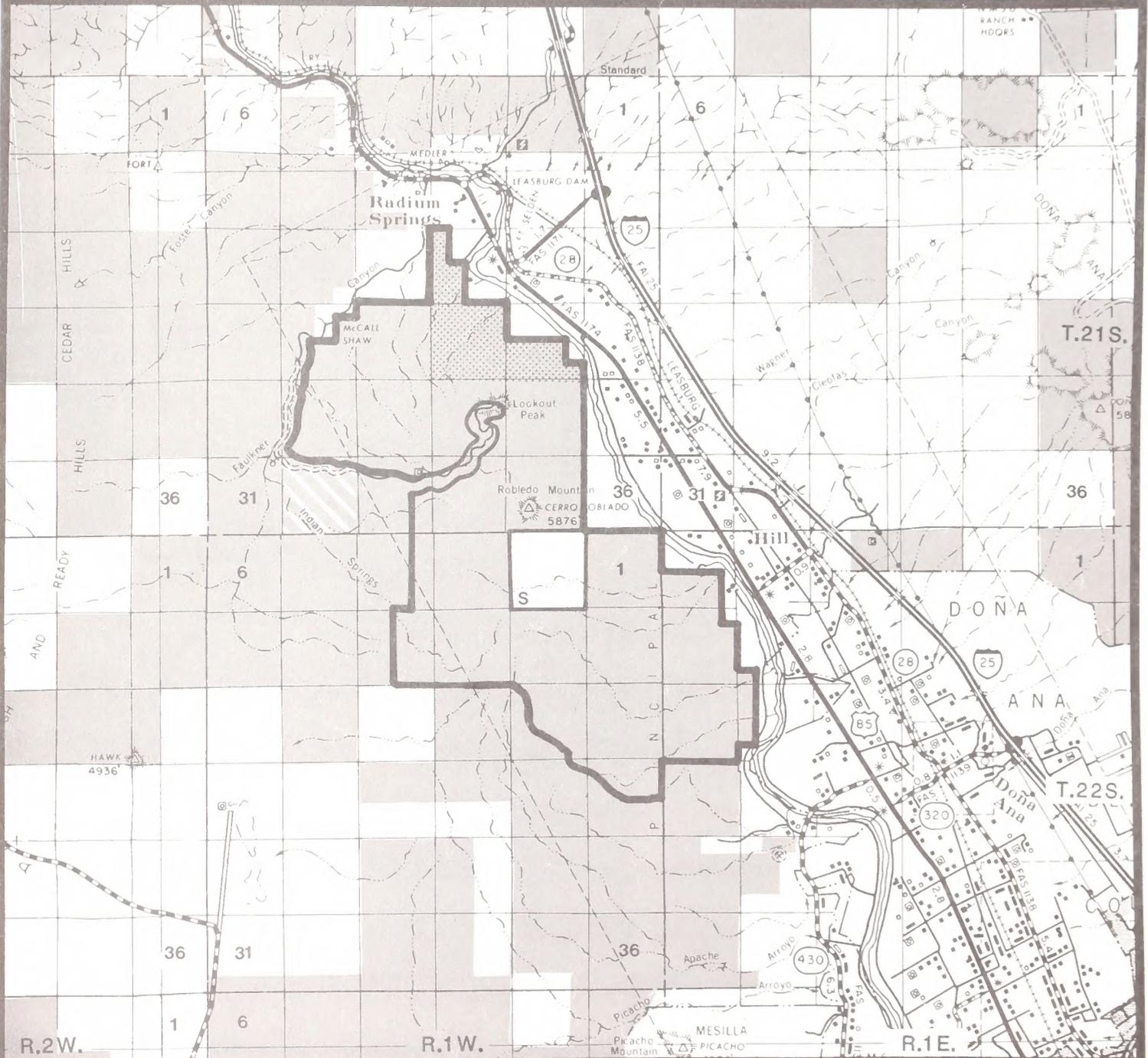
 Post-FLPMA Geothermal Leases

FLPMA was passed October 21, 1976.

*No mining claims were recorded with the BLM within the WSA as of April 15, 1986.

Scale: 1/2 inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



the outcrops which form near vertical cliffs high above the mountain base are inaccessible and would be very expensive to mine.

More accessible high-calcium limestones are present in the Hueco formation in the southeastern portion of the WSA. A channel sample from an outcrop in T. 22 S., R. 1 E., Section 18, NW $\frac{1}{4}$, showed 97.6 percent calcium carbonate, 0.5 percent magnesium carbonate, and 0.3 percent silica. These high-calcium limestones are an excellent source for Portland cement. Potential for the occurrence of an economic deposit is high. Continued growth in the southwest would result in a continuing need for cement-grade limestone. The high-calcium limestone deposits in the Robledo Mountains could help satisfy this need.

c. Manganese

Farnham (1961) described several manganese occurrences near the WSA: the Willis properties in T. 22 S., R. 1 E., Sections 18, 19, and 30 and the Gilliland deposits in T. 22 S., R. 1 W., Section 2 (State inholding). These deposits contain earthy manganese oxides with minor amounts of pyrolusite and psilomelane. Calcite occurs as gangue. The manganese occurs in stringers and small irregular masses along fractures and bedding planes in limestone. The deposits are small and sporadic, seldom more than 3-8 feet wide and 20-30 feet long. In 1943, several tons of hand-sorted ore, containing about 23 percent manganese, were shipped from the Willis deposits in T. 22 S., R. 1 E., Section 30, to a stockpile in Deming, New Mexico. There are no known occurrences of manganese in the WSA. The potential for manganese resources is low.

d. Iron

Porous and broken ore consisting of intergrown hematite, goethite, and limonite occurs in the Iron Hill deposits, less than $\frac{1}{2}$ mile southwest of the WSA (T. 22 S., R. 1 W., Section 16). The deposits have replaced limestone and filled broken and dissolved openings in the limestone. The deposits occur both parallel and transverse to the bedding. There are about 16 prospects consisting of pits, shafts, and adits. According to Kelly (1949), the ore would probably average 50 percent iron and reserves would be 10,000 to 20,000 tons. There has been no production from the Iron Hill deposits. This iron trend could continue at depth northeastward into the WSA; however, there is no geologic evidence to support this possibility. The small size and irregular occurrence of the deposits, and the fact that the demand for iron would continue to be supplied by the large deposits of the midwestern United States for quite some time, makes exploitation of the Iron Hill deposits unlikely. Consequently, the potential for iron resources in the WSA is considered low.

e. Building Stone

Southern portions of the WSA contain limestones and siltstones that are potentially valuable as building or decorative stone. BLM Community Pit No. 1, about 1 mile southeast of the WSA in T. 22 S., R. 1 E., Section 19, SE $\frac{1}{4}$ SE $\frac{1}{4}$, contains some of the same rock formations found within the WSA. This community pit supplies approximately 80 percent of

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rock which is used extensively in the construction trades in the Las Cruces area. The potential for building stone resources in the southern portion of the WSA is high, especially in the vicinity of T. 22 S., R. 1 E., Section 18 and T. 22 S., R. 1 W., Sections 13 and 24.

f. Sand and Gravel

Sand and gravel resources occur along the eastern edge of the WSA in terraces above the Rio Grande Valley. However, there is no public access to these areas which limits the development potential of these resources. More accessible deposits of sand and gravel are located elsewhere along the Rio Grande Valley. Therefore, the potential for sand and gravel in the WSA is low.

B. Watershed

Within the Robledo Mountains WSA, water is used primarily by livestock and wildlife. The only water development within the WSA boundary that utilizes surface runoff is a dirt tank (see Livestock Grazing). The Robledo Mountains WSA is within the Lower Rio Grande declared underground water basin and ground water use is administered by the New Mexico State Engineer.

C. Livestock Grazing

1. Allotments

Parts of four grazing allotments are within the Robledo Mountains WSA. Most of this WSA is ungrazed by livestock due to the steep slopes or the lack of water. Licensed grazing use on public land includes cattle and a few horses. The Corralitos Venture (3013) is under an implemented Allotment Management Plan (AMP). There is a 45-acre tract of unallotted Federal land on the northern end of the WSA near the Rio Grande.

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
F. Burke 3008	10,802	1,020	291	31	3%
Corralitos Venture 3013	130,109	13,860	151	14	1%
Coborn and Johnson 3040	8,968	636	8,438	598	94%
Indian Springs 3047	14,931	1,700	4,021	459	27%
Unallotted	45	0	45		
TOTAL			12,946	1,102	

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Type of Development	Location
F. Burke 3008	dirt tank	T. 22 S., R. 1 W., Sec. 24
Cohorn and Johnson 3040	interior fence	1 mile
Indian Springs 3047	interior fence	1 mile

Boundary Fences:

Indian Springs 3047 and Cohorn-Johnson 3040	4 $\frac{3}{4}$ miles
Cohorn-Johnson 3040 and unallotted Federal land	3 $\frac{1}{2}$ miles
Cohorn-Johnson 3040 and Corralitos Venture 3013	1 mile
Corralitos Venture 3013 and Indian Springs 3047	$\frac{1}{2}$ mile

Note: ^{a/}Information shown in tables reflects only Federal acres and animal unit months (AUMs), and rangeland developments on public land.

3. Potential Rangeland Developments

There is no existing allotment boundary fence between the F. Burke (3008) and Cohorn and Johnson (3040) grazing allotments. The Cohorn and Johnson allotment includes most of the public land around Lookout Peak and the Robledo Mountains, as well as most of the southern half of the WSA. The northern part of the Burke allotment includes that part of the WSA in T. 22 S., R. 1 W., Sections 23 and 24. Livestock trespass between the two allotments is currently not a problem. However, a permanent livestock water was recently installed in the northern part of the Burke allotment (outside of the WSA) and existing plans (Rangeland Improvement Justification Plan for Francis Burke allotment--No. 3008 (BLM 1984)) propose construction of an allotment boundary fence in fiscal year 1986. The proposed fence would be generally located on the section line that divides T. 22 S., R. 1 E., Sections 18 and 19; T. 22 S., R. 1 W., Sections 13 and 24; T. 22 S., R. 1 W., Sections 14 and 23; and T. 22 S., R. 1 W., Sections 15 and 22, E¹. Approximately 1 $\frac{1}{2}$ miles of the fence would cross the WSA and an additional 1 mile would lie on the WSA boundary. The primary purpose of the fence is to prevent livestock trespass between the two allotments.

D. Recreation

Recreation activities in and around the Robledo Mountains WSA are primarily rockhounding and off-road vehicle (ORV) use. The area around the southeastern part of the WSA is well-known for its fossils.

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A lot of ORV use occurs in the area due south of the WSA and on the vehicle trail that forms the southern boundary of the WSA. ORV use occurs on vehicle trails within the WSA, on roads forming the WSA boundaries, and on the cherry-stemmed road to Lookout Peak. Based on the terrain, soil characteristics, and size of the Robledo Mountains, ORV opportunities are considered excellent. The area receives quite a bit of recreational use because of the ORV opportunities and its proximity to Las Cruces.

Primitive recreation opportunities are discussed in Chapter IV, Primitive and Unconfined Recreation.

E. Realty Actions

The Industrial Communications and Equipment Company and the Western Communications Company share a right-of-way (ROW) for their communication sites on Lookout Peak. The cherry-stemmed access road to the top of Lookout Peak is covered by the shared ROW. The facilities on top of the Peak include a 10 foot by 6 foot building, a round building 6 feet in diameter, and 3 towers ranging from 30 to 50 feet in height.

A small portion of the Robledo Mountains WSA near the Rio Grande is withdrawn by a Presidential Executive Order and reserved for the use of the U.S. Department of State in connection with the Rio Grande Canalization Project. The above withdrawal has been reviewed in accordance with Section 204(e) of FLPMA, but final action has been delayed due to the Wildlife Federation lawsuit (Civil Action No. 85-2238), which has enjoined the Secretary from terminating or modifying any withdrawals in effect on January 1, 1981.

Elephant Butte Irrigation District presently has an application for a ROW on file with the BLM. The application is for a proposed flood control structure on Faulkner Canyon and includes 10 acres of land within the WSA.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

Imprints of man within the Robledo Mountains WSA are generally unnoticeable. The dirt tank within the WSA is located less than $\frac{1}{2}$ mile from the boundary. The vehicle way in T. 22 S., R. 1 W., Sections 3, 10, and 11, is topographically screened from most of the WSA.

The last 2 miles of the cherry-stemmed road to Lookout Peak and the communication site facilities on top of the Peak have a negative impact on the naturalness of the area between Lookout Peak and Robledo Mountain. However, when considered as a whole, the WSA is apparently natural.

b. Solitude

The rugged topography of the Robledo Mountains provides outstanding opportunities for solitude, especially in the many drainages in the southeastern and northwestern parts of the WSA.

Vehicle use on the cherry-stemmed road to Lookout Peak negatively impacts opportunities for solitude in the area between Lookout Peak and Robledo Mountain.

c. Primitive and Unconfined Recreation

Primitive recreation opportunities in the Robledo Mountains WSA include hiking, backpacking, caving, hunting, and rockhounding.

Hiking and backpacking opportunities are somewhat limited by the size and shape of the WSA. The area is not large enough to accommodate a backpack trip of any length. The State land in T. 22 S., R. 1 W., Section 2, disrupts the topographic integrity of the WSA and limits hiking opportunities.

Geronimo's Cave presents the only known caving opportunity in the WSA. The cave is located just east of Lookout Peak in T. 21 S., R. 1 W., Section 26. The cave entrance is through a crevice and the cave contains a 40 foot pit. The one active speleological group in the Las Cruces area, the Mesilla Valley Grotto, visits the cave occasionally.

During the intensive inventory phase of the wilderness review, opportunities for primitive recreation were judged as not being outstanding in terms of the quality of recreation opportunities available in the WSA.

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Off-road vehicle (ORV) use and rockhounding opportunities are discussed in Chapter III, Recreation.

2. Special Features

The Robledo Mountains WSA contains special ecological and cultural features of scientific and educational interest.

The ecological features include both vegetation and wildlife values. The Robledo Mountains provide habitat for a State-listed endangered plant species, night blooming cereus. (See Chapter II, Vegetation.) Special wildlife habitat features such as cliffs, caves, and the nearby Rio Grande account for the variety of wildlife found in the WSA. The area also provides habitat for the Trans-Pecos rat snake, a State endangered species. (See Chapter II, Wildlife.)

The Robledo Mountains WSA encompasses 20 known historic and prehistoric cultural sites. The area contains high potential for significant prehistoric resources. (See Chapter II, Cultural.)

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the Robledo Mountains WSA as being in the Chihuahuan Desert Province with a potential natural vegetation of grama-tobosa shrubsteppe.

The general nature of the Bailey-Kuchler System fails to show the vegetative variety and diversity of the WSA. Further refinement of the system shows the following vegetation types in the WSA:

Vegetation Type	Acres
grama-tobosa shrubsteppe	9,060
creosote	2,688
Trans-Pecos shrub savanna	1,198

b. Distance From Population Centers

The Robledo Mountains WSA is approximately 2 hours driving time from El Paso, Texas; 1 hour from Las Cruces, New Mexico; 3 hours from Albuquerque, New Mexico; 5 hours from Tucson, Arizona; and 7 hours from Phoenix, Arizona.

B. Manageability

Several factors potentially affect the BLM's ability to manage the Robledo Mountains WSA as wilderness: land status patterns, the cherry-stemmed road to Lookout Peak, and the split-estate mineral holdings.

The 640 acres of State land in T. 22 S., R. 1 W., Section 2, are located in the center of the mountains and disrupt the topographic continuity of the WSA. This limits primitive recreation opportunities because the total Robledo Mountains area is not available to the recreationist. In addition, nonconforming or nonwilderness uses such as geothermal or mineral development on this section would negatively affect wilderness values in the Robledo Mountains. Should the Robledo Mountains WSA be designated wilderness, this section of State land should be considered for acquisition.

The cherry-stemmed road to Lookout Peak impacts the naturalness and solitude of the local area between Lookout Peak and Robledo Mountain. The continued use of vehicles on this road would result in even more significant impacts on solitude.

The split-estate ownership of 135 acres in T. 21 S., R. 1 W., Section 32 represents a potential manageability problem. The BLM is required to provide reasonable access to private inholdings, including subsurface inholdings, within wilderness areas. Any development of the subsurface estate would result in surface disturbance and would require overland access. Management of the area as wilderness would be complicated by such development. The split-estate parcel is located on the edge of the WSA, therefore, any development and associated access with resulting manageability problems would be localized and would not be significant in the WSA as a whole. However, due to the low mineral potential of the split-estate land, it is unlikely that any development would occur.

The Robledo Mountains WSA could be managed to preserve its existing wilderness values.

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 12,946 acres of public land within the Robledo Mountains WSA would be recommended suitable for wilderness designation. (See Map 39-1 for location of the WSA boundary.)

If designated wilderness, the existing uses and activities in the area and the potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the Wilderness Management Policy (BLM 1981).

1. Impacts on Wilderness Values

Wilderness designation would preserve the wilderness values in the area in the long-term. The area would be managed to retain its natural appearance, outstanding opportunities for solitude, raptor nesting habitat and caves along the limestone cliffs and the prehistoric resources associated with the pithouse village sites. Restricting surface disturbing and mechanized activities associated with mineral exploration and off-road vehicle (ORV) use would prevent increased access and provide long-term protection for the area's existing naturalness, opportunities for solitude, raptor nesting sites, caves, and numerous cultural resource sites. Naturalness in the WSA would improve slightly as a result of closing 2 miles of vehicle ways and allowing them to revegetate.

Vehicle use on the cherry-stemmed road to communications facilities on Lookout Peak would periodically disrupt the solitude in the area between Lookout Peak and Robledo Mountain.

Conclusion. Under the All Wilderness Alternative, the area's naturalness, outstanding opportunities for solitude and special features would be preserved.

2. Impacts on Geothermal Resources, High-Calcium Limestone, Magnesium, and Building Stone

There is currently no mineral production in the Robledo Mountains WSA. However, approximately 2,000 acres of the WSA lies within a Known Geothermal Resource Area (KGRA). One post-Federal Land Policy and Management Act (FLPMA) geothermal lease lies within the WSA boundary. The post-FLPMA geothermal leaseholder could be impacted in the short-term (the life of the lease) since any exploration or development work that would impair wilderness values would not be allowed.

After wilderness designation, the existing geothermal leases, if unexplored, would not be reissued. No new leases, either geothermal or oil and gas, would be let after wilderness designation. Future options to explore for and develop geothermal resources in the WSA would be forgone. However, this would not be a significant impact since geothermal potential in the WSA is low and other exploration sites with higher potential are available outside the WSA.

Although there are currently no existing mining claims, portions of the Robledo Mountains WSA have high potential for high-calcium limestone (3,700 acres) and moderate potential for magnesium (200 acres). The area also has high potential for building stone (1,800 acres). Wilderness designation would preclude exploration and development of these minerals.

Precluding development of the high-calcium limestone potential would have no affect on local industry. At present, the local demand for high-calcium limestone is relatively low. There are other sources of equal or better quality in Dona Ana County and some interest has been expressed in developing these deposits. It is expected that these alternate sources would be sufficient to meet local demand in the foreseeable future. No development of the high-calcium limestone potential in the WSA would not affect costs of the material.

Wilderness designation would not impact magnesium exploration and development since the area of moderate potential is small and long-term demand for the mineral would be met by existing producers outside the local area.

The loss of the opportunity for exploration and development of the building stone potential within the WSA would impact the local construction industry. A BLM community pit located approximately 1 mile southeast of the WSA provides an estimated 80 percent of the building stone used intensively in the building trades in Las Cruces. The same rock formations are found within the WSA. It is expected that demand for building stone will increase in the future as Las Cruces continues to grow. Although alternate local sources are available, projected future demand would exhaust these sources. In the long-term, precluding development of the building stone potential in the WSA would force builders to find sources outside the local area which would result in increased costs for the material and resulting in increased construction costs of projects using building stone. Illegal removal of building stone from the WSA is likely to occur as local sources are depleted.

Conclusion. Designating the Robledo Mountains WSA as wilderness would have little impact on geothermal resources, high-calcium limestone, or magnesium. Wilderness designation would preclude full development of a local source of building stone and eventually cause increased construction costs in the local area.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 6 head per section per year (1,102 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include approximately 11 miles of fence and a dirt tank. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

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Restricting vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

The allotment boundary fence proposed in the Range Improvement Justification Plan (BLM 1984) for the Burke allotment (3008) could be constructed if it were determined through site-specific analysis to be necessary for the purpose of rangeland or wilderness protection. Road construction and motorized access along the fence would not be authorized.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness (Proposed Action)

Under the No Wilderness Alternative, the entire 12,946 acres of public land within the Robledo Mountains WSA would be recommended nonsuitable for wilderness designation.

If the WSA is not designated wilderness, it would be managed under the Southern Rio Grande Management Framework Plan (BLM 1982) and the Las Cruces/Lordsburg MFP Amendment (BLM 1984). These plans prescribed livestock grazing and energy mineral leasing as primary uses of the area. The area would also be open to mineral material sale and hobby rock and mineral collection. Livestock grazing would continue in the WSA and additional rangeland developments would likely be constructed in the long-term to facilitate grazing operations.

Geothermal exploration drilling, prospecting and mining of locatable minerals, and extraction of saleable mineral materials would occur under this alternative.

The impacts of geothermal exploration would vary depending on the number of temperature gradient holes drilled and location and type of access.

Locatable mining activities would be regulated to prevent unnecessary and undue degradation. Measures would be required to control erosion and water runoff, and reshaping and revegetation of disturbed areas would be undertaken where reasonably practical. Mineral materials pits could also be reshaped and reseeded.

In the 12,496 acres not designated as wilderness, unavoidable adverse effects would result from future surface disturbance activities. Over the long-term, these activities would reduce the quality of wilderness values by adversely affecting naturalness, opportunities for solitude and primitive recreation and special wilderness features. Also, cumulative short-term consumptive uses of this land would lead to long-term degradation of wilderness values. Nondesignation of 12,946 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

The natural appearance, outstanding opportunities for solitude, and special features of the Robledo Mountains WSA would not be provided with long-term protection of wilderness designation.

The entire WSA (12,946 acres) would be open to mineral exploration including mining claim location and material sales. Mineral material sale of building stone would be approximately 30 to 50 per year in areas of high potential. Magnesium exploration would result in a total of from 5 to 10 drill holes in areas of moderate potential. Development would result in an additional 2 to 5 acres of surface disturbance. Exploration for high-calcium limestone would result in 15 to 30 drill holes in areas of moderate potential and development would result in an additional 10 to 20 acres of surface disturbance. Total surface disturbance from drill holes and mineral sales would equal approximately 100 acres. Up to 2 miles of existing vehicle ways would be upgraded to roads to facilitate mineral exploration and development.

Geothermal exploration, the extraction of building stone, or mining operations for locatable minerals accompanied by the construction of new access in the Robledo Mountains WSA would likely result in the degradation or loss of naturalness and opportunities for solitude as well as the partitioning of the WSA into roadless areas of less than 5,000 acres.

Conclusion. There would be no significant impacts in the short-term on the overall naturalness of the area or on opportunities for solitude. In the long-term, the 100 acres of surface disturbance, the additional road network and increased vehicle access as a result of mineral exploration and building stone removal would result in loss of the WSA's wilderness values.

2. Impacts on Geothermal Resources, High-Calcium Limestone, Magnesium, and Building Stone

Under this alternative mineral exploration is expected to occur on the KGRA, on 1,300 acres of high potential for building stone, on 3,700 acres of high potential for high-calcium limestone, and on 200 acres of moderate potential magnesium. In the long-term, extraction of building stone and high calcium limestone is expected to occur. Mineral exploration and development would be regulated to prevent unnecessary and undue degradation of the environment.

Conclusion. There would be no impacts on geothermal resources, high-calcium limestone, magnesium, and building stone under this alternative.

3. Impacts on Livestock Grazing Use Levels

Livestock grazing would continue at current levels of approximately 6 head per section per year (1,102 AUMs).

Motorized vehicles could be utilized as needed on existing ways for livestock management. Rangeland developments could be checked and maintained on a convenience basis using motorized equipment. The Burke

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(3008) and Cohorn and Johnson (3040) grazing allotment boundary fence could be installed without design constraints to prevent impairment of wilderness values.

Conclusion. Under the No Wilderness Alternative, there would be no impacts on livestock grazing use levels.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Personal letters, form letters, and petitions were received on the Robledo Mountains unit during both the public comment period on the New Mexico Wilderness Review Initial Inventory Decision (BLM 1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980). Maps and one detailed report with a list and legal descriptions of developments were included.

In the March 1980 WSA Proposals, the BLM proposed to drop this area. This recommendation was based on the cumulative impacts of vehicle trails and rangeland developments and the effects of the unit's boundary configuration on wilderness characteristics.

The analysis of public comments revealed concern over the BLM's evaluation of the Robledo Mountains' wilderness characteristics. Approximately 75 percent of the personal letters supported WSA designation of part of the unit. Sizes for the proposed WSA varied from 8,500 to 42,000 acres. Other supporting reasons cited the area's outstanding opportunities for solitude and primitive recreation provided by the topographic screening of the Robledo Mountains' many hills and drainages. Many supplemental values were listed, including the unit's proximity to Las Cruces, the outstanding variety of ecotypes found in the unit, and the uncommon plant species and birds observed in the area.

Comments supporting the BLM's recommendation to drop the Robledo Mountains WSA were also received. Most of these comments cited rangeland developments, vehicle trails, and mining activity as negatively impacting the naturalness of the area and detracting from opportunities for solitude or primitive recreation.

A reevaluation of the Robledo Mountains WSA's wilderness characteristics, based on public comments, additional field checks, and inventory information, indicated that part of the unit met the basic wilderness criteria. The area around Lookout Peak and Robledo Mountain was designated a WSA in the November 1980 New Mexico Wilderness Study Area Decisions.

During the public comment period on the Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District (BLM 1983), a total of 66 public inputs were received on the Robledo Mountains WSA. Fifty-eight of the inputs favored wilderness designation of the area. Of the 58 inputs favoring wilderness designation, 45 were considered to be form letters. Although all of the form letters were not exactly identical, it was obvious that the letters consisted of nearly identical sentences and paragraphs that had merely been rearranged. However, in both the personal letters and form letters, comments favoring wilderness designation fell into 4 major categories: (1) wilderness characteristics; (2) supplemental values; (3) manageability; and (4) resource conflicts.

Comments regarding the Robledo Mountains' wilderness values were generally broad statements such as, "meets the wilderness criteria in BLM's

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regulations," and "excellent wilderness characteristics." Supplemental values most often listed as reasons for wilderness designation were Indian sites and "outstanding wildlife habitat, especially for eagles and peregrine falcons."

Manageability comments included expressions of disagreement with the use of manageability conflicts such as unauthorized off-road vehicle use to support a nonwilderness recommendation and general comments that the area is manageable. Numerous comments suggested land exchanges with the State, closure of the cherry-stemmed road to Lookout Peak, or limiting use of the road to the companies with facilities on the Peak to solve manageability problems.

Comments on resource conflicts in the area by those favoring wilderness designation overwhelmingly expressed the idea that geothermal and other mineral resources should be developed elsewhere.

Comments opposing wilderness designation for the Robledo Mountains WSA fell into two categories: (1) indicating agreement with BLM's assessment and recommended action or (2) listing potential mineral resources as the reason for opposing wilderness designation.

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM, 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico Wilderness Coalition, which recommended wilderness designation for the entire WSA. Nineteen commentators specifically addressed the Robledo Mountains WSA. All of the commentators favored wilderness designation.

During public scoping on the split-estate issue held in early 1986, 7 commentators specifically favored the addition of split-estate to the affected WSAs and 5 commentators opposed it.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Robledo Mountains WSA by 261 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

Public Review of the Revised Draft EIS

No. 0100-1

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The only potential impact to solitude in the Robledos is vehicle use on the road to Lookout Peak. By gating this road at the beginning and limiting its use to the companies with facilities on the peak, the problem would be minimized. This recommendation was made to the BLM during an earlier comment period, and is even

No 0100-1 (concluded)

listed in the comment section of the 1986 study, but there still seems to be a reluctance to accept a reasonable and simple solution to the problem."

Response: BLM agrees that restricting use of the road to the communication sites on Lookout Peak would reduce impacts to opportunities for solitude in that area. Should the WSA be designated wilderness, consideration will be given to gating the road to restrict access and thereby reduce impacts to solitude opportunities. This consideration is discussed in Part IV and Part VI of the Final Wilderness Analysis Report for the Robledo Mountains WSA.

No. 0100-2

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: ". . . the Coalition recommends both Robledo Mountains WSA and Las Uvas Mountains WSA for wilderness designation. Furthermore, we recommend a major expansion of the boundaries of these areas to include outstanding wildlands adjacent to the WSAs. . . the Coalition proposal includes the Rough and Ready Hills, the Cedar Hills, a portion of the Magdalena Mountains, and the wide open plains between."

Response: Much of the area outside the Las Uvas and Robledo Mountain WSAs proposed by the Coalition for designation as wilderness was dropped by the decisions on the initial and intensive inventories. Other areas between the Las Uvas and Robledo Mountains were dropped in the New Mexico Wilderness Study Area Decisions in 1980. There were no appeals of any of these decisions nor were there any appeals requesting BLM to designate larger WSAs.

APPENDIX 40/41

WEST POTRILLO MOUNTAINS AND MOUNT RILEY WSAs (NM-030-052)

I. GENERAL DESCRIPTION

A. Location

The West Potrillo Mountains and Mount Riley Wilderness Study Areas (WSAs) are located in southwestern Dona Ana County. A small part of the West Potrillo Mountains WSA extends west into Luna County. The WSAs are approximately 30 miles southwest of Las Cruces, New Mexico, and 50 miles north-northwest of El Paso, Texas.

The following U.S. Geological Survey (USGS) topographic maps cover the WSAs:

Aden, New Mexico	- 15 minute scale
Mount Riley, New Mexico	- 15 minute scale
X-7 Ranch, New Mexico	- 7 ¹ / ₂ minute scale
POL Ranch, New Mexico	- 7 ¹ / ₂ minute scale
Camel Mountain, New Mexico	- 7 ¹ / ₂ minute scale

B. Climate and Topography

The West Potrillo Mountains and Mount Riley WSAs are characterized by an arid, continental climate, with mild winters and pleasant to hot summers.

Average annual precipitation in the area is around 8 inches, with locally larger amounts at higher elevations. A wide variation in annual totals is characteristic of arid climates as illustrated by annual extremes of 19.60 and 3.62 inches recorded by New Mexico State University at Las Cruces during a 74 year period of record. More than half of the moisture normally falls during July, August, and September from convective thundershowers that are commonly intense and of short duration. In the winter, some light snow falls on the average of two years out of three at higher elevations, but usually melts within a few days.

During the summer months, daytime temperatures quite often exceed 100°F. The average monthly maximum temperature during July, the warmest month, is slightly above 90°F. In January, the coldest month, average monthly minimum temperature is in the middle 20's.

Winds generally predominate from the southeast in summer and from the northwest in winter. Wind speeds are usually moderate. Spring is the windy season. Dry, gusty winds are predominantly from the west and may exceed 30 mph in the afternoons.

The West Potrillo Mountains and Mount Riley WSAs contain a variety of terrain. The outstanding topographic features are the volcanic cones of the West Potrillo Mountains, the Mount Riley peaks, and Indian Basin.

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Over 48 of the West Potrillo Mountains volcanic cones are concentrated in a north-south orientation through the center of the WSA. The cones range from 1,000 feet to 3,000 feet in diameter and elevations at the highest peaks reach 5,400 feet.

Mount Riley and Mount Cox are two of the three high, steep intrusive peaks clustered together east of the West Potrillo Mountains. The highest peak reaches an elevation of nearly 6,000 feet. Prominent talus slopes and alluvial fans surround the base of the peaks.

Indian Basin, a large depression in the southwest part of the West Potrillo Mountains WSA, is rimmed with sand dunes. The Basin's bottom elevation of 4,029 feet is about 75 feet below the surrounding desert floor.

C. Land Status

The West Potrillo Mountains and Mount Riley WSAs contain 149,785 acres and 7,400 acres of public land, respectively, for a total of 157,185 acres in both WSAs. The West Potrillo Mountains WSA is the largest BLM WSA in New Mexico.

There are no private or State owned surface inholdings in the Mount Riley WSA, however, there are 640 acres of split-estate land (Federal surface and non-Federal subsurface) within the WSA.

There are 12,051 acres of State land and 1,440 acres of split-estate ownership within the boundary of the West Potrillo Mountains WSA. (See Map 40/41-1 for land status.)

D. Access

The West Potrillo Mountains and Mount Riley WSAs are legally accessible from County Roads A03, A05, and A07. County Road A03 forms the southern boundary of the West Potrillo Mountains WSA. This road is known as the Columbus-to-Anapra road and parallels the New Mexico-Mexico border.

County Road A05 branches north from A03 to form the southeast boundary of the West Potrillo Mountains and the west boundary of Mount Riley. At the southern tip of the Mount Riley WSA, County Road A07 branches northeast from A05 to form the east boundary of Mount Riley.

A ranch road continuing north-northeast from County Road A07 ties into a network of roads forming the north and west boundaries of the West Potrillo Mountains WSA.

WEST POTRILLO MTNS. WSA / MT. RILEY WSA (NM-030-052)

PROPOSED ACTION - AMENDED BOUNDARY ALTERNATIVE

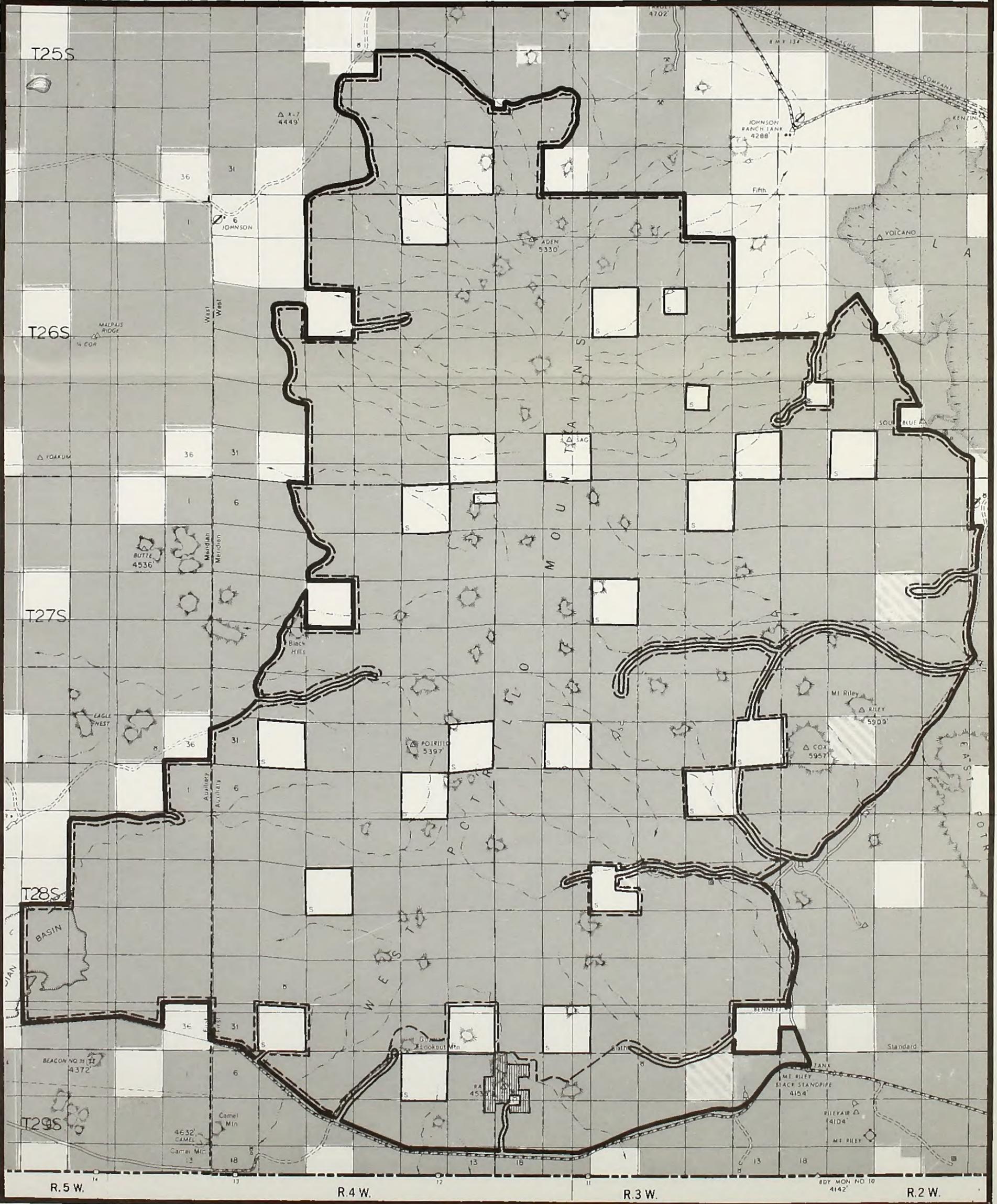
MAP 40&41-1
LAND STATUS

Legend

- WSA BOUNDARY
- - - AMENDED BOUNDARY
- ||||| CHAPPARRAL CINDER CLAIMS
- Land Status
 - BLM
 - PRIVATE
 - STATE
 - BLM SURFACE/NON BLM SUBSURFACE

Scale: 1/2 inch = 1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



WEST POTRILLO MOUNTAINS AND MOUNT RILEY

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Including this Alternative
Expanding the WSA to Include Kilbourne Hole or Phillip's Hole	This alternative was not considered because it would require consideration of lands not designated for wilderness study and unprotected by the BLM Interim Management Policy. The size and boundaries of the WSA were determined by land status and the location of roads.

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on Threatened or Endangered Species Night blooming cereus; Peregrine falcon; Swainson's Hawk	The U.S. Fish and Wildlife Service has concurred with BLM's finding of no affect on species Federally-listed or proposed for listing as threatened or endangered. An analysis of potential impacts to threatened or endangered species would be required for any proposed surface disturbing activities
Impacts on Cultural Resources	Cultural resources were not selected for detailed analysis because there are few sites, they are away from projected development areas, and a detailed site-analysis would be required prior to authorizing any proposed surface disturbing activities.

Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	157,185 acres were identified during the inventory as having wilderness values.
Amended Boundary (Proposed Action)	This alternative was formulated to deal with manageability conflicts resulting from existing cinder mining activities under the 1872 Mining Law and to exclude acreage with high potential for mineral material sales of cinders.
No Wilderness	The No Action Alternative required by NEPA.

Environmental Issues Selected for Detailed Analysis

Impacts on the quality of the wilderness values, impacts on livestock grazing use levels, and impacts on exploration and low level development of oil and gas potential are the primary issues identified for these two WSAs. High quality wilderness values were attributed to the area's large size, diverse topography, proximity to large populations centers, and dispersed access points.

Concerns regarding livestock use levels include the inconvenience to livestock operators from vehicle restrictions under wilderness designation, as well as an expected increase in vandalism and harassment to livestock if it is not designated wilderness.

If the West Potrillo Mountains WSA is designated wilderness, oil and gas exploration would not be possible on approximately 8,000 acres with moderate potential. The impacts on oil and gas are not considered significant because of the minimal acreage involved and the location of the acreage along the periphery of the WSA. This issue will be discussed, however, because of Statewide interest.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	Amended Boundary (Proposed Action)	No Wilderness
<p>MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 157,185 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Attempts would be made to acquire 15,600 acres of State land, 40 acres of private land, and 2,080 acres of non-Federal mineral estate within and adjacent to the WSA.</p> <p>-Close 72 miles of vehicle ways which currently receive low use (less than 200 vehicles per year).</p> <p>-Require permits for vehicular access to maintain 10 dirt tanks, 2 corrals, 2 wells (one with watering facilities), and 78½ miles of fence. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspection and minor repairs would be precluded.</p> <p>-157,185 acres would be closed to future energy minerals leasing, mining claim location, and mineral materials sales of cinders. This would affect 8,000 acres with moderate potential for oil and gas and 1,400 acres with high potential and 7,400 acres with moderate potential for cinders.</p> <p>-Cinder mining would continue as a valid existing right on the Chaparral mining claims in the south-central part of the West Potrillo Mountains WSA.</p>	<p>MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 148,540 ACRES. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-Attempts would be made to acquire 14,280 acres of State land and 1,440 acres of non-Federal mineral estate.</p> <p>-Close 65 1/2 miles of vehicle ways which currently receive low use (less than 200 vehicles per year).</p> <p>-Require permits for vehicular access to maintain 10 dirt tanks, 2 corrals, 2 wells (one with watering facilities), and 78½ miles of fence. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspection and minor repairs would be precluded.</p> <p>-148,540 acres would be closed to future energy minerals leasing, mining claim location, and mineral materials sales of cinders. This would affect 8,000 acres with moderate potential for oil and gas and 7,400 acres with moderate potential for cinders.</p>	<p>MANAGE 157,185 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p> <p>-No special attempts would be made to acquire State land and non-Federal mineral estate.</p> <p>-Vehicle use on existing roads and trails would be allowed to continue. Total vehicle use is estimated to be less than 200 vehicles per year.</p> <p>-Vehicular restrictions for maintenance of rangeland developments would not apply. Access for maintenance and inspections would be allowed as needed without restrictions and is estimated to be once a week.</p> <p>-67,373 acres in the central part of the WSA would be open to energy minerals leasing with a special stipulation to protect primitive values by restricting surface occupancy and requiring the operator to submit a surface use and operations plan. Seismic exploration is projected but no development is anticipated.</p> <p>-89,812 acres would be open to energy minerals leasing with no special stipulations. This area includes 8,000 acres of moderate potential for oil and gas. Due to moderate favorability for occurrence, it is projected that oil and gas exploration would occur and would consist of geophysical activities and the drilling of up to 5 exploratory wells. Although possible, no development is projected for the area inside the WSA. Exploration would result in 10 to 20 acres of surface disturbance and 1 to 5 miles of new access roads.</p> <p>-Cinder mining would continue on the Chaparral mining claims. Approximately 1,400 acres of high potential for cinders would be open to mineral material sales. It is projected that 5 to 10 sales per year would occur resulting in 10 to 20 acres of surface disturbance. Mineral material sales of cinders could occur on 7,400 acres with moderate potential for cinders. In the long-term 2-5 sales per year could occur resulting in up to 10 acres of surface disturbance and up to 5 miles of new road.</p>

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES
(concluded)

All Wilderness	Amended Boundary (Proposed Action)	No Wilderness
-Reasonable access to 2,080 acres of non-Federal mineral estate would be permitted with consideration for protecting wilderness values. The need for access is not likely due to the low mineral potential of the split-estate parcels.	-Reasonable access to 1,440 acres of non-Federal mineral estate would be permitted with consideration for protecting wilderness values. The need for access is not likely due to the low mineral potential of the split-estate parcels.	-Access to 2,080 acres of non-Federal mineral estate would not be restricted.
-Current livestock grazing levels of approximately 4 head per section per year (12,738 ALMs) would continue.	-Current livestock grazing levels of approximately 4 head per section per year (12,738 ALMs) would continue. *MANAGE 8,645 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN: -No special attempts would be made to acquire State and private lands. -Vehicle use on existing roads and trails would be allowed to continue. Use is estimated to be less than 10 vehicles per year except on the road to the Chaparral Cinder Claims. Use on this road is estimated at up to 1,000 vehicles per year and will likely increase in the long-term. -2,580 acres would be open to energy minerals leasing with a special stipulation to protect primitive values. Seismic exploration is projected, one line, but no development or production is anticipated due to low mineral potential. -6,065 acres would be open to energy minerals leasing with no special stipulations. Seismic exploration is projected, one line, but no development or production is anticipated due to low mineral potential. -Cinder mining would continue on the Chaparral mining claims. Approximately 1,400 acres of high potential for cinders would be open to mineral material sales. It is projected that 5 to 10 sales per year would occur resulting in 2 to 6 acres of surface disturbance. -Current livestock grazing levels of approximately 4 head per section per year (12,738 ALMs) would continue.	-An area of 23,040 acres could be opened for vegetative collection and sales. It is projected that 10 to 15 permits per year would be issued for removal of individual plants. Complete removal of vegetation from any one area would not occur. -Current livestock grazing levels of approximately 4 head per section per year (12,738 ALMs) would continue.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues	
	Impacts On Wilderness Values	Impacts on Cinder Development and Oil and Gas Exploration
All Wilderness (157,185 acres)	The natural character of the numerous cinder cones, lava flows, basalt ridges and sand dunes, outstanding opportunities for solitude, outstanding opportunities for hiking, backpacking, hunting, and geological sightseeing, as well as habitat for night blooming cereus and Classic Mimbres and El Paso Phase sites in the West Potrillo Mountains and Mount Riley WSAs would be maintained. Cinder extraction under a valid existing right mining operation would degrade wilderness values in the vicinity of Chaparral cinder claims.	Exploration on 8,000 acres of moderate potential for oil and gas in the West Potrillo Mountains WSA would be eliminated. However, based on the oil and gas potential, the lack of producing wells in the general area, no production is expected to occur, therefore impacts on production would be low. Mineral material sales on 1,400 acres with high potential and 7,400 acres with moderate potential for cinders would be foregone.
Amended Boundary (148,540 acres recommended suitable, 8,645 acres recommended nonsuitable) (Proposed Action)	Same as All Wilderness Alternative. Naturalness would be affected on 8,645 acres released, however wilderness values on this area are of lesser significance than are those on the remainder of the West Potrillo Mountains WSA; therefore, no overall impact on wilderness would result. Wilderness values in the vicinity of the Chaparral mining claims would be degraded.	Same as All Wilderness Alternative except that 1,400 acres with high potential for cinders would be available for development. Five to 10 sales per year would result in 10 to 20 acres of surface disturbance annually.
No Wilderness (157,185 acres)	Naturalness and opportunities for solitude and primitive recreation would be maintained in most of the WSA in the short-term. These values would be degraded in the area of the Chaparral mining claims and Guzman's Look-out Mountain as a result of ongoing and proposed cinder mining operations. In the long-term oil and gas exploration, cinder mining in areas of moderate potential and the development of up to 5 miles of new roads would degrade naturalness, solitude, and opportunities for primitive recreation in 30-40 percent of the WSA.	No significant impact.

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The West Potrillo Mountains and Mount Riley WSAs are located on the La Mesa geomorphic surface along the western margin of the Rio Grande rift zone. Structurally, the West Potrillo Mountains and Mount Riley area is an uplifted block or horst, the northern portion of which is cut by northwest-trending, post-Tertiary faults.

The oldest rock type exposed in the Mount Riley WSA is fine-grained limestone of Cretaceous age. Small outcrops of this limestone are found along the south, east, and northeast borders of Mount Riley and Mount Cox (T. 27 S., R. 2 W., Sections 20 and 32, and T. 28 S., R. 2 W., Section 6). The pluton that forms Mount Riley and Mount Cox varies from altered andesite to rhyodacite of Tertiary age. Volcanic tuffs and sediments of probable Tertiary age crop out on the northwest flank of Mount Riley (Hoffer 1976).

The West Potrillo Mountains are a broad topographic high containing numerous volcanoes and covered by Quaternary olivine basalt. Cinder cones are the most common type of volcano. Over 150 of these have been identified in the range, primarily along the north-south center line of the WSA. Two volcanic maars, or explosion craters, also occur in the West Potrillo Mountains WSA. The basalt flows covering the surface are fairly thin (10-18 feet), but the thickness of the total pile is not known (Hoffer 1981). Based upon drill data from nearby oil and gas wildcat wells, these volcanics appear to have been deposited on top of Tertiary bolson deposits and marine sediments of Cretaceous and Paleozoic age.

B. Water

The West Potrillo Mountains and Mount Riley WSAs form a divide for the south-central portion of two surface water drainage basins. To the west is the Mimbres Basin, a noncontributing, closed basin and to the east is the Mesilla Basin which contributes to the larger Rio Grande Basin.

Surface water within the WSAs drains into both river basins through ephemeral stream systems. Generally, these ephemeral streams flatten out below the alluvial fan slopes and become a nonintegrated system of washes and arroyos in the valley floor. Surface flow usually occurs as a result of summer thundershowers.

Significant recharge to the ground water reservoir occurs in the many washes and arroyos during flood runoff. Ground water quality is within recommended limits for livestock and wildlife use, as established by the National Academy of Sciences (RLM 1980).

C. Soils

The West Potrillo Mountains and Mount Riley WSAs are characterized by numerous cinder cones, lava flows, and basalt ridges. Four major landforms and soil types occur within the WSAs.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

On the large peaks and steep slopes of the Mount Riley WSA, soils are stony, shallow, and interspersed between areas of rock outcropping. On more level areas around footslopes of the hills and mountains, soils typically are gravelly on the surface with sandy textures. These soils are shallow to moderately deep and are usually underlain by caliche or lime coated basalt. In the southern and western parts of the WSAs, the soils are a deep, sandy texture, and have been reworked by wind. Coppice dunes around shrubs are common in these areas. Numerous depressional areas are found throughout the WSAs. These areas receive runoff water and are characterized by deep, fine textured soils.

D. Vegetation

1. General

The vegetation and associated range sites within the West Potrillo Mountains and Mount Riley WSAs consist of five major types:

Vegetation Types	Range Sites	Federal Acres
Creosote	Malpais (lava flow)	52,539
Creosote-mixed desert shrub	Gravelly and shallow sands	47,671
Creosote-mixed desert shrub-grass	Hills	15,581
Mesquite	Sandy	36,165
Mixed desert shrub-tobosa	Draws (swales) and bottomland	5,229

Creosote is the dominant vegetation on the malpais (lava flow) areas located in the northeast half of the West Potrillo Mountains WSA. There is a wide diversity of shrubs, annual and perennial forbs, and grasses in the malpais, many occurring in isolated pockets. Other associated shrub species include snakeweed, various cacti, tarbush, mesquite, mariola, spicebush, and zinnia. Grass species include bush muhly, black grama, dropseeds, other grammas, and tobosa.

Creosote, snakeweed, zinnia, mesquite, yucca, various cacti, Mormon tea, tarbush, and mariola are the dominant shrub species in the shallow soil areas (gravels and sands). Many other shrub species are present in small quantities. Grass species include tobosa, black grama, bush muhly, and dropseeds. Pepperweed, a perennial forb, occurs as a dominant species in some areas. Many other annual and perennial forbs are present in varying amounts. These sites are intermixed across both WSAs.

The West Potrillo Mountains, in the center of the WSA, are creosote-mixed desert shrub aspect dominated hills. Other desert shrubs include snakeweed, mariola, fourwing saltbush, various cacti, and a few juniper trees. Grasses are varied and sparse.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

Grass is the dominant vegetation on Mount Riley. Grasses in this area include bush muhly, black grama, tobosa, dropseeds, Hall's panic, and annual grasses. Mixed desert shrubs occur on the side slopes.

Mesquite sandy areas in the WSAs are along the southern boundary near the Mexican border and the east side. Associated shrub species are snakeweed, fourwing saltbush, yucca, broom dalea, Mormon tea, acacia, creosote, and pale wolfberry. Bush muhly is the major grass species with many other grasses occurring in small amounts. Many species of annual and perennial forbs inhabit these areas.

Mesquite, tarbush, snakeweed, and creosote are the dominant species in the deep soils of the draws (swales) and bottomland areas. Tobosa grass dominates in a few swales. Many other shrubs and grasses occur in small amounts.

2. Rare Plant Species

The following species was identified and located in or near the WSAs (NMSHP and USFWS 1982; revised 1986).

Species: Cereus greggii - night blooming cereus

Status: Listed as endangered by the State of New Mexico; candidate for Federal listing.

Habitat: Widespread; does not grow commonly anywhere; needs the microhabitat associated with creosote and bush muhly.

E. Wildlife

1. General

Although the West Potrillo Mountains and Mount Riley WSAs are primarily a low-elevation area, they have eight different habitat sites. Creosote and mesquite sand dunes are the two largest. While neither of these are very valuable wildlife habitats, the combination of all the habitat sites and the size of the WSAs create enough diversity that there are a number of different wildlife species. The total area is significant for wildlife.

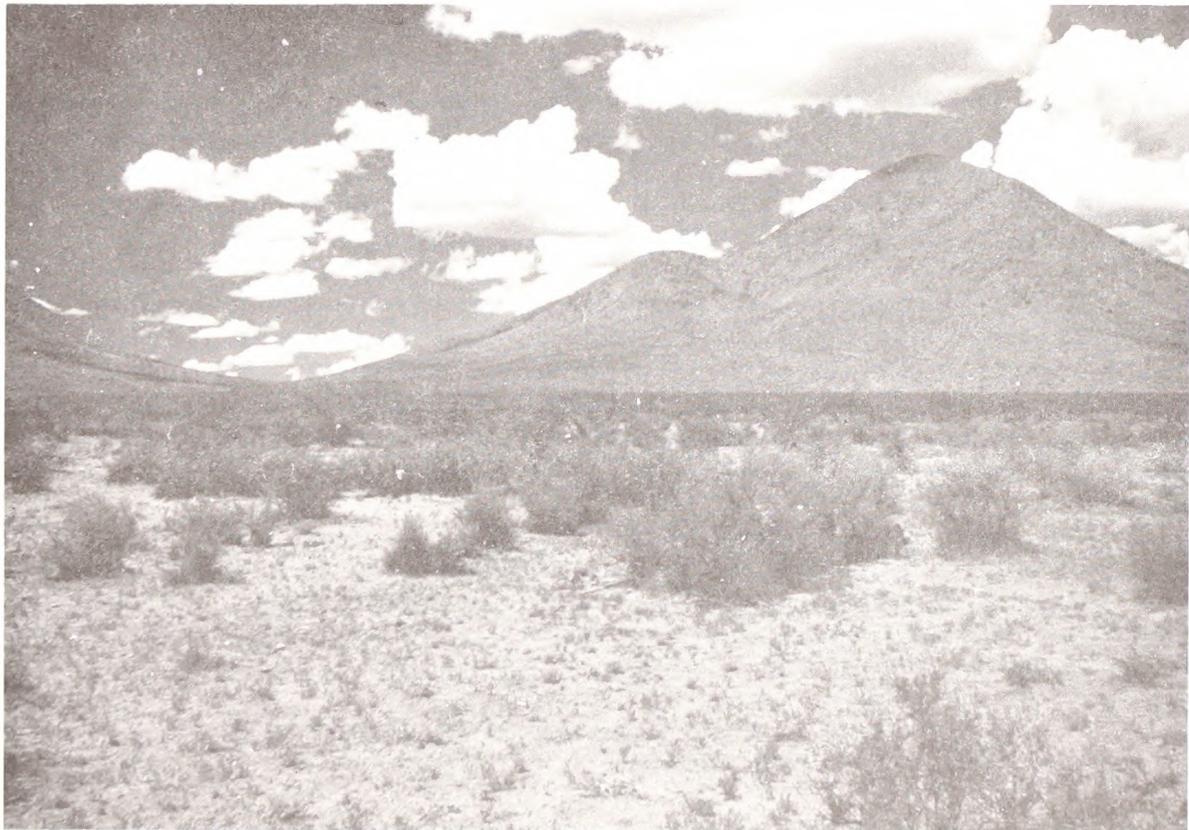
One significant feature of the area is Indian Basin, a natural depression at the southwest end of the West Potrillo Mountains WSA. During the rainy season, the basin floods and many ducks can be found on the temporary pond. There are a number of other dirt tanks in the WSA; waterfowl can be expected on any of them when they hold water.

Wintering raptors are found in high numbers in the WSAs. This may be attributed to the high mammal prey base in creosote and mesquite sites (BLM 1981).

Some raptors also nest within the WSAs. Burrowing owls are fairly common in the mesquite sand dune sites. Golden eagles and great horned owls nest in the cinder cones of the West Potrillo Mountains. Swainson's hawks nest in soaptree yuccas, a common plant species in some parts of the WSAs (BLM 1979).



Looking north into the West Potrillo Mountains WSA.



Mount Riley WSA.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

Mule deer are found in low numbers within the WSAs. The New Mexico Department of Game and Fish has designated the West Potrillo Mountains as a herd unit area. They estimate that there are now less than half a deer per section, and the optimum number of deer for the area is half a deer per section.

2. Threatened or Endangered Fauna Species

There are several records of peregrine falcons, a Federal endangered species, being seen in or near the West Potrillo Mountains WSA in the winter, but there is no reason to think they depend on the WSA as crucial habitat. The Swainson's hawk, which probably nests in the area, is presently under review by the U.S. Fish and Wildlife Service for listing as a threatened or endangered species. A rare mollusc, Ashmunella rileyensis, is endemic to several localities in these WSAs and is listed as an element of special concern by the New Mexico State Heritage Program.

F. Visual

Four scenic quality rating units (SQRUs) describe the West Potrillo Mountains and Mount Riley WSAs. The Mount Riley, West Potrillo Mountains, and Indian Basin SQRUs described below all have Class B (moderate) ratings.

Mount Riley is only one of three massive dome-like landforms within this rating unit that abruptly rise above the desert floor. Colors are dull brown and dark gray with some reddish tones. The dark green and light brown vegetation is scattered and random with some concentrations in the radial drainage ways.

The West Potrillo Mountains SQRU consists of a chain of moderately steep cone shaped and horseshoe shaped (herraduras) volcanic landforms. Landform color is principally dark brown to black with some reddish tones. The vegetation on the lower slopes appears marbled with areas of light and dark green while upper slopes appear more uniformly dark green.

The Indian Basin SQRU describes the southwest part of the West Potrillo Mountains WSA. The sand dunes forming the rim of the Basin are primarily light tan mottled with dark green and gray-green vegetation. From a distance, the basin depression appears uniformly covered with grasses which vary in color from bright greenish yellow to light green, depending on the season.

The fourth SQRU describing the WSAs surrounds the three SQRUs described above. This rating unit consists of flat to gently rolling desert with a Class C rating. The green, tan, and gray colors of creosote, mesquite, yucca, and grasses offer some contrast with the light browns, tans, and orange-browns of the flats and rolling sand dunes.

The West Potrillo Mountains and Mount Riley WSAs fall into a Visual Resource Management (VRM) Class IV.

G. Cultural

There are four known sites in the West Potrillo Mountains and Mount Riley WSAs. One site is a Classic Mimbres pueblo that has been bulldozed; however, some undisturbed material may still remain. This site has the highest concentration of bird bones of any known Mimbres site. There are several undisturbed El Paso phase structures near the middle of the West Potrillo Mountains WSA and one El Paso phase hamlet near the southeast boundary of the WSA. The most concentrated and significant cultural resources are in the southwestern portion of the WSAs. They provide information regarding settlement in a very marginal area.

H. Air

Generally, the quality of air within the West Potrillo Mountains and Mount Riley WSAs is good. The air quality in the WSAs does not exceed the State or Federal air quality standards and is classified as a Class II area. This classification allows a moderate amount of degradation of air quality.

The only major degradation of air quality occurs during the spring months (March-May) when west-prevailing winds, commonly gusting in excess of 30 mph, result in dust storms throughout the southern part of the State.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The mineral resources potential of the West Potrillo Mountains and Mount Riley WSAs is shown on Table 3 and Map 40/41-2. Map 40/41-3 shows the approximate location of mining claims and mineral leases within the two WSAs.

TABLE 3
MINERAL RESOURCES POTENTIAL OF THE WEST POTRILLO MOUNTAINS
AND MOUNT RILEY WSAs

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*	Approximate Acreage in Amended Boundary*
Energy Minerals				
Oil and Gas	Quaternary basalt flows; probable Cretaceous and Paleozoic sediments at depth	Moderate	8,000	8,000
	Quaternary basalt flows with numerous cinder cones; probable Cretaceous and Paleozoic sediments at depth	Low	--	--
Geothermal	Recent volcanism; Rio Grande rift zone	Low	--	--
Nonenergy Minerals				
Base and Precious Metals (Copper ^a /, Gold, Silver ^a /, Lead ^a /, Zinc ^a /, Molybdenum ^a /)	Tertiary intrusive and volcanics; Cretaceous limestone	Low	--	--
Cinders	Potrillo basalt field; numerous cinder cones	High	1,400	-0-
		Moderate	7,400	7,400
		Low	--	--

Notes: *Acreage was not calculated for areas with low potential.

^a/Listed on the National Defense Stockpile Inventory of Strategic and Critical Minerals.

WEST POTRILLO MTNS. WSA / MT. RILEY WSA (NM-030-052)

PROPOSED ACTION - AMENDED BOUNDARY ALTERNATIVE

Legend

- WSA BOUNDARY
- - - AMENDED BOUNDARY
- ||||| CHAPPARRAL CINDER CLAIMS
- Land Status
- BLM
- PRIVATE
- STATE
- BLM SURFACE/NON BLM SUBSURFACE

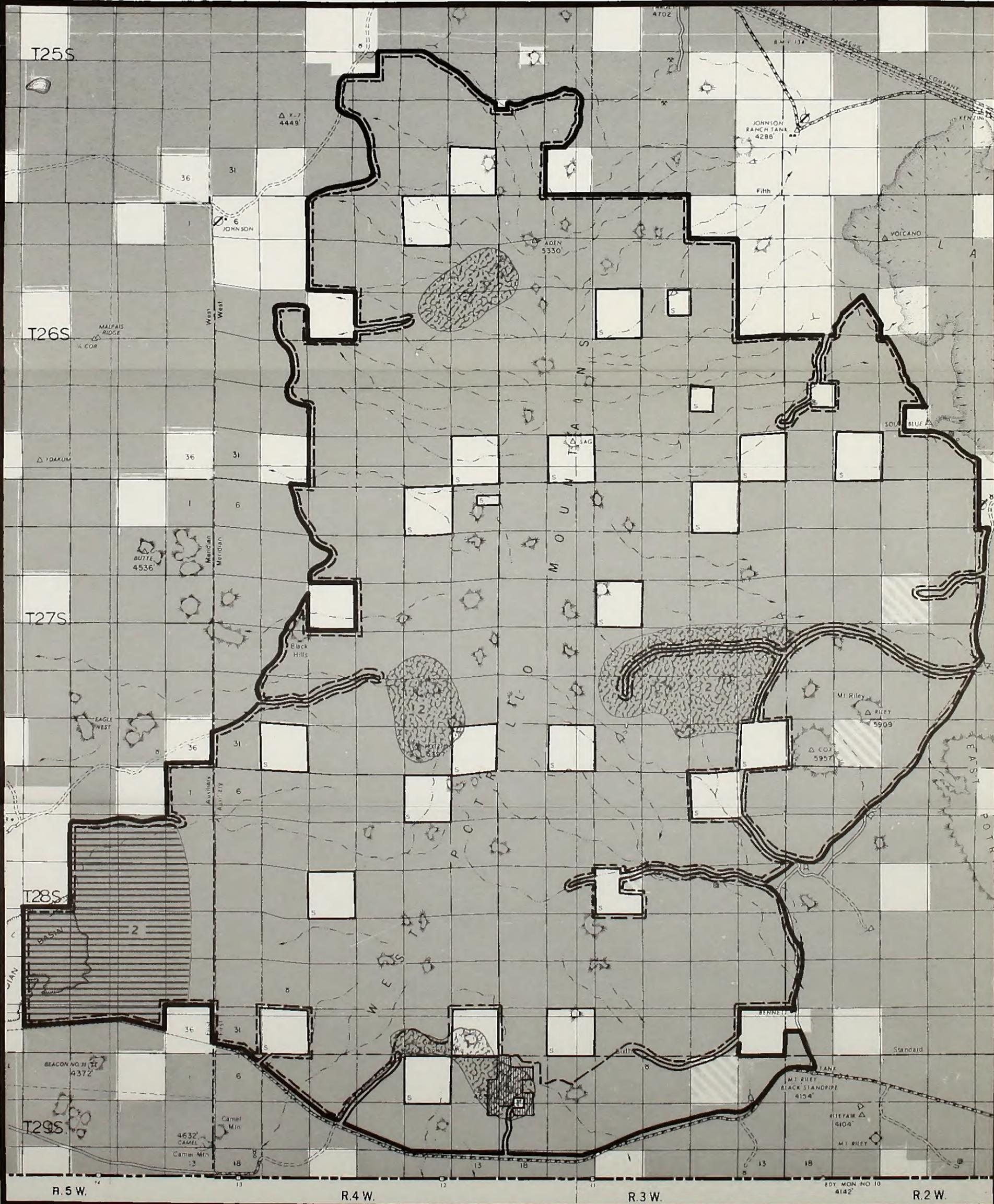
MAP 40&41-2
MINERAL RESOURCE POTENTIAL*

- ▨ Cinders
- ▨ Oil and Gas

* Areas of high (1) and moderate (2) mineral potential are shown for lands within the WSA except for split-estate land; the potential may extend onto the split-estate land and outside the WSA boundary. Areas of low potential are not shown.

Scale: 1/2 inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



1. Energy Minerals

There are 33 oil and gas leases within the two WSAs. All of these leases became effective after the enactment of the Federal Land Policy and Management Act (FLPMA) on October 21, 1976, and are referred to as post-FLPMA leases. The West Potrillo Mountains Primitive Area, an 80,600-acre area in the central part of the West Potrillo Mountains WSA and south half of the Mount Riley WSA, is covered by a lease stipulation to protect primitive values (BLM Las Cruces/Lordsburg MFP Amendment 1984).

This stipulation prohibits surface use or occupancy unless the lessee or operator demonstrates that the area is essential to adequately explore for or develop oil or gas, the lessee or operator submits a surface use and operations plan, and BLM finds the proposed use does not adversely affect the resources protected by the restriction.

a. Oil and Gas

Geophysical exploration for oil and gas resources has occurred sporadically adjacent to and within the WSA, and two wildcat oil and gas wells were drilled in or near the southwestern part of the WSA. The Sunray Midcontinent No. 1 Federal "R" (T. 28 S., R. 5 W., Section 27) was drilled in Indian Basin within the WSA to a total depth of 6,626 feet. Gas was reported within the El Paso formation in the interval from 5,582 to 5,619 feet. Another well, the Skelly No. 1-A N.M. "C", was drilled about 1½ miles west of the WSA (T. 28 S., R. 5 W., Section 19). This well was drilled to 9,437 feet with the last 637 feet in Precambrian basement rock (Thompson et al. 1978), and had no reported shows. Although information from these wells is not conclusive, the oil and gas potential in the southwestern portion of the West Potrillo Mountains WSA is considered to be moderate based upon the show of gas in the Sunray Midcontinent No. 1 Federal "R". Some geophysical exploration has been done along the eastern boundary of the West Potrillo Mountains WSA to the north and southwest of the Mount Riley WSA, but there is no other favorable information in this area to justify a moderate classification for oil and gas resources. These areas, as well as the remainder of the West Potrillo Mountains WSA and the entire Mount Riley WSA have low to no potential for oil and gas, primarily because high temperatures associated with the numerous cinder cones in the West Potrillo Mountains and the Mount Riley intrusion would have had a detrimental effect on any previously existing oil and gas accumulations.

b. Geothermal

Based upon geothermal exploration by Hunt Energy Corporation in the late 1970's and early 1980's, the potential for geothermal resources in the West Potrillo Mountains and Mount Riley WSAs is low to none. No anomalous temperature gradient or heat-flow data have been obtained from the area, and current information indicates that the area may be a recharge zone.

2. Nonenergy Minerals

According to BLM records dated April 15, 1986, there are 103 mining claims within the two WSAs. Of these, 22 were located before the enactment of FLPMA and are referred to as pre-FLPMA claims.

a. Base and Precious Metals (Copper, Gold, Silver, Molybdenum, Lead, Zinc)

The potential for metallic mineralization within the WSAs is low. Although Exxon Minerals Company has drilled several exploratory holes southeast of the Mount Riley WSA, they have shown no interest in the Mount Riley area itself. Based upon known mineral occurrences in the southwestern United States, Tertiary intrusives such as Mount Riley are not associated with copper porphyry type mineralization, but may be associated with precious metal deposits.

b. Cinders

Volcanic cinders are the most important mineral material resource in the West Potrillo Mountains WSA. Although cinders are present over most of the WSA, only three areas have moderate potential. These areas were delineated primarily because they are located close to existing physical access; other areas may have cinders of equal or better quality, but are not presently accessible for development.

One cinder cone, Guzman's Lookout Mountain (T. 28 S., R. 4 W., Section 35), in the south-central part of the West Potrillo Mountains WSA was extensively mined in the past under the General Mining Law of 1872. However, since 1955, cinders have been classified as saleable minerals and are no longer locatable under the mining laws. There are currently 6 pre-FLPMA mining claims in the West Potrillo Mountains WSA which were located for cinders in 1946. These are the Chaparral claims in T. 29 S., R. 3 W., Section 6, where grandfathered cinder mining operations are presently being conducted under a Plan of Operations. (See Map 40/41-3 for location of claims.) This area has high potential for cinders. (See Map 40/41-2.)

B. Watershed

Water use within the West Potrillo Mountains and Mount Riley WSAs is primarily by livestock and wildlife. There are eight dirt tanks inside the West Potrillo Mountains WSA that utilize surface runoff (see Livestock Grazing). Two small water spreading dikes are also located within the West Potrillo Mountains WSA for erosion control. Additionally, several well facilities and dirt tanks for livestock watering are located at the end of cherry-stemmed roads or just outside the WSAs' boundaries.

The West Potrillo Mountains and Mount Riley WSAs are within the Lower Rio Grande declared underground water basin and ground water use is administered by the New Mexico State Engineer.

C. Livestock Grazing

1. Allotments

Parts of five grazing allotments are within the West Potrillo Mountains and Mount Riley WSAs. Some areas within the WSAs such as the upper elevations of Mount Riley and the West Potrillo Mountains cinder cones are ungrazed by livestock due to the lack of water, the steep slopes, and the rough and broken terrain in the malpais (lava rock). Licensed grazing use on public land includes cattle and a few horses.

TABLE 4
ALLOTMENTS WITHIN THE WSAs^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
POL 3016	83,114	5,688	27,223	1,877	33%
Kilbourne Hole 3023	85,488	5,760	11,236	749	13%
West Potrillos 3029	94,682	8,446	50,327	4,476	53%
Mount Riley 3033	75,360	5,448	46,914	3,378	62%
Thousand Springs 3039	52,327	5,508	21,485	2,258	41%
TOTAL			157,185	12,738	

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSAs^{a/}

Allotment Name and Number	Type of Development	Location
POL 3016	dirt tank	T. 27 S., R. 4 W., Sec. 25
Kilbourne Hole 3023	interior fence	2 miles
	2 dirt tanks	T. 27 S., R. 2 W., Sec. 20
West Potrillos 3029	dirt tank	T. 27 S., R. 3 W., Sec. 12
	dirt tank	T. 27 S., R. 3 W., Sec. 9
	interior fence	11 miles
	corral and tub well with water facilities and corrals, large trap	T. 26 S., R. 3 W., Sec. 10
		T. 26 S., R. 3 W., Sec. 25
Mount Riley 3033	dirt tank	T. 27 S., R. 3 W., Sec. 8
	well	T. 28 S., R. 3 W., Sec. 15
	interior fence	24 miles
Thousand Springs 3039	dirt tank	T. 29 S., R. 4 W., Sec. 4
	dirt tank	T. 28 S., R. 5 W., Sec. 24
	dirt tank	T. 28 S., R. 5 W., Sec. 21
	dirt tank	T. 28 S., R. 4 W., Sec. 23

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Boundary Fences:

POL 3016 and West Potrillos 3029	4½ miles
Thousand Springs 3039 and POL 3016	8½ miles
Thousand Springs 3039 and Mount Riley 3033	6 miles
POL 3016 and Mount Riley 3033	8½ miles
Kilbourne Hole 3023 and West Potrillos 3029	5 miles
Kilbourne Hole 3023 and Mount Riley 3033	3 miles
Mount Riley 3033 and West Potrillos 3029	6 miles

Note: a/Information shown in tables reflects only Federal acres and animal unit months (AUMs), and rangeland developments on public land.

D. Recreation

Recreational activities in the West Potrillo Mountains and Mount Riley WSAs include off-road vehicle (ORV) use, sightseeing, rockhounding, and hunting.

ORV use occurs on vehicle trails throughout the area and along boundary roads often associated with other recreation activities such as those described below. No motorized cross-country travel is allowed in the West Potrillo Mountains WSA. The WSA was designated as limited to designated roads and trails under an emergency ORV closure on June 4, 1982. The purpose of the emergency closure is to prevent off-road travel on vibroseis lines within the WSA which would hinder rehabilitation of the lines.

Zoological sightseeing opportunities are fair in and around Indian Basin, which is winter habitat for ferruginous, rough-leg, red-tail, and other hawks. Quail, dove, and duck hunting occurs in Indian Basin. Rockhounds look for geodes in the West Potrillo Mountains. The geodes are of volcanic origin and occasionally have crystalline centers.

The 1975 Management Framework Plan (MFP) for the Las Uvas Planning Unit recommended that a study be conducted to determine the value of the central part of the West Potrillo Mountains as a primitive area. The public participation record for the 1975 MFP indicated public support for the study at that time.

Primitive, nonmotorized recreation opportunities are described in Chapter IV, Primitive and Unconfined Recreation.

E. Education/Research

Dr. Reid of the University of Texas at El Paso indicates that R. D. Worthington will start a floristic survey of the West Potrillo Mountains and Mount Riley area to determine what plants are present, how they are disturbed, and what environmental factors influence them. Dr. Paul Minnis has expressed interest in working on a Mimbres site in Indian Basin in the near future.

F. Realty Actions

The Southern Pacific Railroad right-of-way forms the major portion of the southern boundary of the West Potrillo Mountains WSA. The railroad tracks have been removed and parts of the old railroad grade combine with existing dirt roads to provide access to mining claims and rangeland developments. At the present time, this road, known as the Columbus-Anapra road, is being upgraded and paved which will facilitate access to the southern portion of the WSAs.

G. Vegetative Products

An area of approximately 23,040 acres in the vicinity of Indian Basin in the southwest part of the West Potrillo Mountains WSA was identified in the Southern Rio Grande MFP (BLM 1981) as a potential vegetative collection and sale area for yucca, ocotillo, cacti, sotol base, yucca stalks, fourwing saltbush seed, and mesquite.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The West Potrillo Mountains and Mount Riley WSAs generally appear natural. Human imprints affecting the naturalness of the West Potrillo Mountains WSA include dirt tanks, vehicle ways, fences, cherry-stemmed roads, and cinder mining activities. The Mount Riley WSA is virtually pristine with the exception of 4 miles of fence.

Ten dirt tanks are within the boundary of the West Potrillo Mountains WSA. Two-track vehicle ways provide access to nine of the dirt tanks. The remaining tank appears to be accessed by cross-country travel.

A web of 72 miles of vehicle ways cover the West Potrillo Mountains WSA. All of these are two-track with vegetation growing in the center. The ways are generally unnoticeable unless standing directly on or walking along the ways. The ways provide access within livestock grazing allotments, to other allotments, and to rangeland developments.

Approximately $78\frac{1}{2}$ miles of fence crisscross the WSAs. All have wooden posts and blend in well with the landscape. Vehicle ways run along approximately 20 miles of the fences.

Twelve roads are cherry-stemmed into the West Potrillo Mountains WSA. The two longest cherry-stems penetrate 4 miles into the WSA. Most of the remaining roads penetrate 2 miles or less into the area. Three of these roads enter the WSA from the south, six from the east, and three from the west boundary. These roads provide access to livestock watering facilities and cinder mining activities.

Cinder mining impacts are found in the southern part of the West Potrillo Mountains WSA (see Map 40/41-2 for general locations of cinder claims). The cinder mine at Guzman's Lookout Mountain furnished the cinders for the old Southern Pacific railroad bed (now the Columbus-Anapra road) that forms most of the southern boundary of the WSA. The south and southwest slopes of the mountain are heavily impacted. There is no ongoing activity at this site.

Currently, cinder mining is taking place on one of six placer claims $2\frac{1}{2}$ miles southeast of Guzman's Lookout Mountain. These claims were located prior to the passage of the Federal Land Policy and Management Act (FLPMA) on October 21, 1976, and operations are proceeding in the same manner and degree as on that date. A new cut (pit) on the northeast slope of a cinder cone was excavated in August of 1981. At this stage in the mining operations, the mine is screened topographically because of its

location and proximity to other cinder cones in the vicinity and the subtle color contrast between the surface and subsurface material renders the mine virtually invisible from a distance.

Three geophysical exploration lines (vibro-seis lines) were completed in the northwest and northeast parts of the West Potrillo Mountains WSA in March and April of 1982. The line in the northwest part of the WSA is approximately 5 miles long. The lines in the northeast part of the WSA are approximately 3 and 8 miles long. Reclamation work was done on the lines and their condition is being monitored by the BLM. Vehicular travel is prohibited on the lines (See Chapter III, Recreation). The lines are expected to be substantially unnoticeable by the time the Secretary of the Interior is scheduled to present wilderness suitability recommendations to the President as required by the nonimpairment criteria in the Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM 1979).

Several factors mitigate the impacts of the imprints of man described above. First of all, most of the imprints in the West Potrillo Mountains WSA are associated with livestock grazing and their impacts on naturalness are not significant.

Secondly, the vast size of the West Potrillo Mountains WSA in combination with the topographic variation serve to dilute the effects of the imprints. The WSA is, on the average, 12 miles wide (east-west axis) and 20 miles long (north-south axis). Within this vast area, the topography includes playas, sand dunes, and over 48 volcanic cones.

Thirdly, the imprints are distributed throughout the West Potrillo Mountains WSA. For example, the network of vehicle trails roughly divides the WSA into pristine parcels that vary in size from 7,000 acres to 20,000 acres.

The cumulative impacts of human imprints within the West Potrillo Mountains do not greatly affect the quality of overall naturalness in the WSA. Both WSAs generally appear to have been affected primarily by the forces of nature.

b. Solitude

Both the West Potrillo Mountains and Mount Riley WSAs provide outstanding opportunities for solitude. In the Mount Riley WSA, the three separate peaks and the radial drainage ways down the slopes provide topographic screening of visitors. There is some potential for user concentrations in the larger drainages separating Mount Riley and Mount Cox where climbing is less difficult.

Due to the vast size, blocked-up boundary configuration, and varied topography of the West Potrillo Mountains WSA, opportunities to avoid the sights and sounds of others are found throughout the area. Access points into the WSA are numerous and dispersed. This further enhances opportunities for solitude. The quality of solitude opportunities in the

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West Potrillo Mountains is a major factor in the overall value of the area for wilderness.

c. Primitive and Unconfined Recreation

Outstanding opportunities for primitive recreation in the West Potrillo Mountains WSA include hiking, backpacking, hunting, and geological sightseeing. The large size and blocked-up configuration of the WSA make a 3-4 day backpack through the area possible. The lack of water and rough and rubbly volcanic surfaces make backpacking and hiking somewhat challenging. The variety of volcanic formations (cinder cones with craters, herraduras, and spatter cones) add geologic interest. The solitude of the area contributes favorably to primitive recreation experiences.

Climbing opportunities exist in the Mount Riley WSA. Although challenging, these opportunities are not considered outstanding.

2. Special Features

The West Potrillo Mountains and Mount Riley WSAs contain special ecological and cultural features of scientific and educational value.

The ecological features include both vegetation and wildlife values. The WSAs provide habitat for night blooming cereus, a State-listed endangered plant species (see Chapter II, Vegetation) and an endemic mollusc, Ashmunella rileyensis, which is also listed as an element of concern by the New Mexico State Heritage Program. The WSAs are significant for wildlife because of the number of wildlife habitat sites within the areas and the large size of the WSAs (see Chapter II, Wildlife).

The cultural features of the WSAs include Classic Mimbres and El Paso phase sites which would provide information regarding settlement in a marginal area (see Chapter II, Cultural).

Future projects of scientific and educational value planned in this area include a floristic survey of the West Potrillo Mountains and Mount Riley and a study of a cultural site in Indian Basin (see Chapter III, Education/Research).

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the West Potrillo Mountains and Mount Riley WSAs as being in the Chihuahuan Desert Province with a potential natural vegetation of grama-tobosa shrubsteppe.

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The general nature of the Bailey-Kuchler System fails to show the vegetation variety and diversity of the WSAs. Further refinement of the system shows the following vegetation types in the WSAs:

<u>Vegetation Types</u>	<u>Acres</u>
creosote	53,179
Trans-Pecos shrub savanna	61,812
mesquite-acacia savanna	36,805
grama-tobosa shrubsteppe	5,389

b. Distance From Population Centers

The West Potrillo Mountains and Mount Riley WSAs are approximately 1 hour driving time from El Paso, Texas; 1 hour from Las Cruces, New Mexico; 5 hours from Albuquerque, New Mexico; 6 hours from Tucson, Arizona; and 8 hours from Phoenix, Arizona.

B. Manageability

Several factors affect the ability of the West Potrillo Mountains and Mount Riley WSAs to be managed as wilderness in the long-term: State land, private subsurface mineral estate, and mining claims and existing mining activities.

State land inholdings total 12,051 acres in the West Potrillo Mountains WSA. Three parcels of private subsurface mineral estate totaling 1,440 acres are located in the West Potrillo Mountains WSA. A 640-acre inholding of private subsurface mineral estate is located in the Mount Riley WSA.

At the present time, there are no special uses on the State sections except grazing leases. Although all of the State acreage is leased for oil and gas, none of the State parcels or non-Federal subsurface mineral estate parcels are located in the southwestern part of the West Potrillo Mountains WSA, where there is moderate potential for oil and gas accumulations. The BLM is required to provide reasonable access to private inholdings, including subsurface inholdings, within wilderness areas. Any development of the subsurface estate would result in surface disturbance and would require overland access. Management of the area as wilderness would be complicated by such development. However, due to the low mineral potential of the split-estate lands, it is unlikely that any development would occur.

Since the West Potrillo Mountains WSA is so large, the impacts of nonwilderness uses on non-Federal lands would not have major impacts on the wilderness values or manageability of this WSA.

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Activities on the Chaparral claims are presently proceeding in the same manner and degree under the grandfather clause and are expected to degrade wilderness values in this part of the WSA in the long-term.

- (2) Once an area is designated wilderness, the provisions of the Wilderness Act of 1964 and the Wilderness Management Policy (WMP) (BLM 1981) apply. Under the Wilderness Act and the WMP, holders of mining claims, either pre-FLPMA or post-FLPMA, validly established in the area prior to its designation as wilderness may develop their claims in accordance with the 43 CFR 3809 regulations "Surface Management of Public Lands Under U.S. Mining Laws." Although exercise of the valid existing rights of mining claimants must be with the least possible impact on the wilderness resource and claimants will be required to prevent unnecessary or undue degradation of the land, mining operations may impair wilderness values if there are no reasonable alternatives. In this case, the wilderness values in the vicinity of valid mining claims could be degraded after the area is designated wilderness.

The Chaparral cinder claims represent a major negative impact on the wilderness manageability of the south-central part of the West Potrillo Mountains WSA since production is presently occurring and it is highly probable that the validity exam required after wilderness designation would confirm that the claims represent valid existing rights. Based on the locatable mineral potential in the Mount Riley area, it is unlikely that the claims inside the boundary of the Mount Riley WSA would prove to be valid.

With the exception of the south-central part of the WSA where the six pre-FLPMA cinders claims are located, the West Potrillo Mountains and Mount Riley WSAs could be managed in the long-term to preserve existing wilderness values.

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 157,185 acres of public land within the West Potrillo Mountains and Mount Riley WSAs would be recommended suitable for wilderness designation. (See Map 40/41-1 for WSA boundary.)

If designated wilderness, the existing uses and activities in the area and the potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the Wilderness Management Policy (WMP) (BLM 1981).

1. Impacts on Wilderness Values

Wilderness designation would provide the wilderness values present in the areas with significant long-term Congressional protection. The natural character of the numerous cinder cones, lava flows, basalt ridges, and sand dunes, the outstanding opportunities for solitude, outstanding opportunities for hiking, backpacking, hunting, and geological sightseeing, as well as the habitat for night blooming cereus and classic Mimbres and El Paso Phase sites would generally be maintained.

It is highly likely that the six cinders claims in the West Potrillo Mountains WSA would be found valid. Mining operations on the 520 acres covered by the claims would significantly degrade natural values on the affected cinder cones, opportunities for solitude and primitive recreation, and special features in the long-term since the mining of cinders involves significant excavation. The mining operations on these claims would significantly impact the manageability of the extreme south-central part of the WSA in the long-term.

The 72 miles of vehicle ways within the WSAs would be signed and in some cases barricaded to deter ORV use. However, it is likely that some trespass ORV use would occur in the short-term which would impact naturalness and opportunities for solitude. These impacts would not be significant.

Conclusion: Under the All Wilderness Alternative, the long-term protection of Congressional designation would significantly preserve the wilderness resources in the West Potrillo Mountains and Mount Riley WSAs. Grandfathered mining activity would continue to degrade wilderness values on approximately 1,000 acres in the southern portion of the West Potrillo Mountains WSA. Trespass ORV use would slightly impact naturalness and opportunities for solitude.

2. Impacts on Cinder Development and Oil and Gas Exploration

There is an area of 8,000 acres in the southwest part of the West Potrillo Mountains WSA identified as having moderate oil and gas potential. The impacts on oil and gas would not be significant because of the minimal WSA acreage involved and the location of the acreage along the

periphery of the WSA. It would be possible to explore a major portion of the moderate potential area through directional drilling from outside the WSA boundary. This would likely increase costs to the drilling company. Unless economic conditions change or new data reveal a higher favorability, the development of oil and gas is not expected. Any development would likely be outside the WSA. Permits to remove mineral material from approximately 1,400 acres with high potential and 7,400 acres with moderate potential would not be issued. Impacts would not be significant because of the availability of similar materials elsewhere.

Conclusion. Oil and gas exploration and development would be foregone inside the WSA. Impacts on oil and gas would not be significant. Cinder development would not be affected due to the availability of similar material elsewhere.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 4 head per section per year (12,738 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 10 dirt tanks, 2 corrals, 2 wells (one with watering facilities, and 78¹ miles of fence. New rangeland facilities are not planned. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 200 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. Amended Boundary (Proposed Action)

Under the Amended Boundary Alternative, 148,540 acres of public land within the West Potrillo Mountains and Mount Riley WSAs would be recommended suitable for wilderness designation (see Map 40/41-1 for amended WSA boundary).

The amended boundary would exclude 8,645 acres of public land in the southern part of the West Potrillo Mountains WSA. This boundary adjustment would exclude the six cinder claims (Chaparral Numbers 1-6) from the area recommended suitable for wilderness. Grandfathered mining activity is occurring on these claims. Excluding the claims would eliminate a

manageability problem. In addition to the six cinder claims, the amended boundary would also eliminate three cherry-stemmed roads, a privately-owned parcel cherry-stemmed out of the WSA, and 1,280 acres of State inholdings.

If the area within the amended boundary is designated wilderness, existing and potential uses (see Chapter III) would be regulated by the Wilderness Management Policy (BLM 1981) as described under the All Wilderness Alternative.

The excluded area would be managed according to the Southern Rio Grande Management Framework Plan (MFP) and the Las Cruces/Lordsburg MFP Amendment. Both of these plans prescribe livestock grazing as a major use of the area. In addition, the Las Cruces/Lordsburg MFP Amendment also prescribes energy mineral leasing as a use of the area. At the present time, 8,005 acres in the excluded area is under oil and gas lease. It is expected that cinder mining would continue on the Chaparral claims and that mineral material sales of cinders would occur on adjacent land with high potential for cinders.

In 148,540 acres designated as wilderness, closure to vehicle use will result in adverse impacts to existing and potential recreational vehicle use and opportunities for exploration and development of minerals would be foregone. Short-term consumptive uses would not degrade the maintenance and enhancement of the long-term productivity. Although designation of wilderness constitutes a long-term commitment of resources, such designation is reversible by Congress.

In the 8,645 acres not designated as wilderness, unavoidable adverse effects of the proposed action will result from future surface disturbance activities. Over the long-term, these activities will reduce the quality of wilderness values by adversely affecting naturalness, opportunities for solitude and primitive recreation and special wilderness features. Also, cumulative short-term consumptive uses of this land will lead to long-term degradation of wilderness values. Nondesignation of 8,645 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

The wilderness values and special features within the amended boundary would be provided with long-term Congressional protection. Natural values, outstanding opportunities for solitude and primitive recreation, and special ecological and geological features would be maintained in the West Potrillo Mountains WSA. Natural values, outstanding opportunities for solitude, and special ecological features would be maintained in the Mount Riley WSA. The relatively small reduction in acreage would not significantly impact existing wilderness values in the remainder of the two WSAs.

The exclusion of the grandfathered cinder mining claims from the area recommended suitable would significantly enhance the manageability

of the designated West Potrillo Mountains wilderness in the long-term. Wilderness values within the designated wilderness would not be degraded by grandfathered mining activities.

Conclusion. The long-term protection of Congressional designation in the area recommended suitable (148,540 acres) would preserve the wilderness resources in the West Potrillo Mountains and Mount Riley WSAs. Mining activity under a valid existing right would continue to degrade values within the area recommended nonsuitable for wilderness designation.

2. Impacts on Cinder Development and Oil and Gas Exploration

The impacts to oil and gas resources under the Amended Boundary Alternative would be the same as those described under the All Wilderness Alternative. Due to the location of the moderate oil and gas potential, exploration could occur through directional drilling from outside the WSA. Any development would likely be outside the WSA. Unless economic conditions change or new data reveal a higher favorability, the development of oil and gas is not expected. The 1,400 acres of high potential for cinders would be available for development.

Conclusion. Oil and gas exploration and development would be foregone inside the WSA. Impacts on oil and gas would not be significant. Cinder development would not be affected due to the availability of similar material elsewhere.

3. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 4 head per section (12,738 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 10 dirt tanks, 2 corrals, 2 wells (one with watering facilities), and 78½ miles of fence. New rangeland facilities are not planned. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 200 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

C. No Wilderness

Under the No Wilderness Alternative, the entire 157,185 acres of public land within the West Potrillo Mountains and Mount Riley WSAs would be recommended nonsuitable for wilderness designation.

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If the WSAs are not designated wilderness, the areas will be managed according to the Southern Rio Grande MFP and the Las Cruces/Lordsburg MFP Amendment. Both of these plans prescribe livestock grazing as a major use of the area. In addition, the Las Cruces/Lordsburg MFP Amendment prescribes energy mineral leasing as a use of the area. However, the MFP amendment also required a protective stipulation be attached to all leases issued for 67,373 acres of mineral estate in the West Potrillo Mountains. The stipulation states in part that "The lessee is given notice that all or part of the lease area contains special values . . . or requires special attention to prevent damage to surface resources. Any surface use or occupancy within such areas is strictly prohibited unless the lessee/operator demonstrates that the area is essential to adequately explore for or develop oil or gas. The lessee/operator submits a surface use and operations plan, and the surface management agency finds the proposed surface occupancy or use does not . . . adversely affect the resources protected by the restriction." The purpose of the stipulation is to protect back country, primitive, and wildlife values in the West Potrillo Mountains and Mount Riley areas. Currently, there are 33 oil and gas leases in the two WSAs which include 8,000 acres of moderate potential for oil and gas in the West Potrillo Mountains WSA.

It is projected that oil and gas exploration would occur on the moderate potential acreage and would result in up to 5 wildcat wells being drilled. Up to 5 miles of new road would be constructed in support of the drilling operations. Cinder mining would continue on the Chaparral claims in the southern end of the West Potrillo Mountains WSA. On the Federal lands adjacent to the mining claims, 1,400 acres are classified as having high potential for cinder. It is expected that 5 to 10 sales per year would occur on that area. On 7,400 acres classified as having moderate potential for cinders, it is expected that 2 to 5 sales per year would occur. These sales would be due in large part to the development of the Columbus and Anapra Road along the south boundary of the WSA and the proximity of the El Paso Metropolitan area. The all-weather road allows relatively easy access between El Paso and the WSA and beyond. As a result, increased cinder extraction in and around the WSA is highly likely in order to meet the demand of a growing urban and commercial area.

Under the current planning documents, no new rangeland developments are proposed for the two WSAs. However, it is likely that in subsequent planning cycles, new developments would be proposed and constructed.

Based on resource management decisions in the Southern Rio Grande MFP, ORV use in the two WSAs was limited to designated roads and trails through an emergency ORV closure in 1982. This closure was superseded in 1985 by a designation limiting ORV use to existing roads and trails. This designation would continue under the No Wilderness Alternative to protect the naturalness of the areas.

1. Impacts on Wilderness Values

The wilderness values and special features of the West Potrillo Mountains and Mount Riley WSAs would not be protected through Congressional designation. Portions of the West Potrillo Mountains and

Mount Riley WSAs would probably retain their natural values, outstanding opportunities for solitude and primitive recreation, and special features in the short-term.

Ongoing cinder mining operations would degrade naturalness and opportunities for solitude and primitive recreation would be degraded in the vicinity of the Chaparral mining claims. These same wilderness values would also be impacted in the vicinity of Guzman's Lookout Mountain where additional cinder mining has been proposed. Additional cinder development is likely to occur in other portions of the WSA. Up to 10 sales per year would occur in areas of high potential and up to 5 sales per year would occur in areas of moderate potential. Surface disturbance as a result of mineral material sales would be approximately 30 acres annually.

The restriction of all vehicles to existing roads and ways would provide some protection for existing wilderness values by preventing cross-country vehicle use and proliferation of roads that could partition the area into smaller roadless areas. However, continued ORV access on the 72 miles of vehicle ways within the WSAs would periodically disrupt solitude in the vicinities of the vehicle ways.

Exploration activities for oil and gas could temporarily impact natural values. Any energy minerals activities in the area of 67,373 acres in the central part of the West Potrillo Mountains and southern half of Mount Riley would be restricted to protect primitive values.

Conclusion. Oil and gas exploration, mineral material sales and livestock grazing operations, including installation of new rangeland developments, would degrade wilderness values in 30-40 percent of the WSA in the long-term.

2. Impacts on Cinder Development and Oil and Gas Exploration

Oil and gas leasing would continue. Vehicle use in connection with exploration activities would be restricted to existing roads and trails. Oil and gas drilling, development, or production activities in an area of 67,373 acres in the central part of the West Potrillo Mountains WSA and south half of the Mount Riley WSA would comply with the constraints of the protective stipulation for primitive values. Compliance with the stipulation could result in no surface occupancy areas or restrictions on types and locations of access. Such restrictions could result in additional operating costs for the energy minerals industry. However, the best potential for oil and gas in the two WSAs appears to be an area of 8,000 acres with moderate potential in the southwest part of the West Potrillo Mountains WSA. A low level of development is possible for this area. This area is outside the 67,373 acres covered by the protective stipulation for primitive values. It is likely that mineral material sales would occur on the 1,400 acres with high potential for cinders. Development of the areas with moderate potential could also occur in the long-term resulting in 2-5 sales per year.

Conclusion. Exploration would be allowed resulting in full determination of the areas' oil and gas potential and possible development. Development of the areas of high and moderate potential for cinders would likely occur.

3. Impacts on Livestock Grazing Use Levels

Current livestock grazing levels of approximately 4 head per section per year (12,378 AUMs) would continue. All rangeland developments could be checked and maintained on a convenience basis using motorized equipment on existing roads and trails.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Personal letters, form letters, and petitions were received on the West Potrillo Mountains and Mount Riley WSAs during the public comment periods on the New Mexico Wilderness Review Initial Inventory Decisions (BLM 1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980). The WSA proposal for these areas was among the ten most commented upon recommendations in the State. Additional data submitted with the public inputs included maps and legal descriptions of developments.

Approximately 43 percent of the personal letters supported further wilderness review of the West Potrillo Mountains and Mount Riley. Supporting comments cited naturalness, outstanding opportunities for solitude and recreation, and geological supplemental values as justification. The area's large size, diverse topography, proximity to large population centers, and dispersed access points were listed as contributing factors to outstanding opportunities.

Approximately 57 percent of the personal letters opposed wilderness review of these two areas. About half of the opposing comments listed resource conflicts such as aggregate minerals, oil and gas potential, geothermal energy potential, and grazing. There was also concern that wilderness designation would "hinder, in the future, the use of the large water basin in these areas by the City of Las Cruces and Dona Ana County and prevent access to the elderly and the handicapped." Other comments listed roads, rangeland developments, and vehicle trails as impacts on naturalness and described opportunities for solitude as less than outstanding due to the outside sights and sounds of the Southern Pacific Railroad, Interstate 10, and the low level crossings of military aircraft.

During the public comment period on the New Mexico Wilderness Supplemental Draft Environmental Assessment (BLM 1983), 31 personal letters, 13 form letters, 1 petition with 15 signatures, and 52 coupons were received indicating support for wilderness designation of the West Potrillo Mountains and Mount Riley WSAs. About half of the personal letters and all of the form letters, coupons, and petition listed no reasons for supporting wilderness designation for these areas. One input questioned the appropriateness of recommending these areas suitable for wilderness designation.

Many of the comments favoring wilderness designation were similar to those made in previous public comment periods; these included "extensive and very wild," "hiking opportunities," and "outstanding scenic, wildlife, botanic, and cultural resources." Several comments addressed the size and boundaries of the area that should be recommended suitable for wilderness. The comment was made that Kilbourne Hole or Phillip's Hole should have been included in the WSAs to complement the geological values of the West Potrillo Mountains and Mount Riley WSAs. Support was also indicated for an area of 205,000 acres, which is greater than the existing WSA acreage.

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Several comments pertained to BLM's selection of the Amended Boundary Alternative. Only one of the inputs concurring with the amended boundary recommendation included a rationale. This input stated, "The amended boundary will not change the character of the WSA. Its varied topography and unimpaired views will not be disrupted by excluding the area south of Guzman Lookout." The New Mexico Wilderness Study Committee disagreed with the amended boundary, stating, "Removing 8,005 acres seems an unnecessarily large exclusion to eliminate the cinder claims in the southern part...exclusion could be smaller and still not cause management problems."

The importance of the West Potrillo Mountains and Mount Riley in terms of adding diversity to the National Wilderness Preservation System was emphasized in several personal letters. These comments expressed the general idea that as large an area as possible of the southwestern New Mexico desert should be preserved and that these WSAs will become more important as the population centers of the southwest grow.

The New Mexico Department of Game and Fish indicated agreement with the Amended Boundary Alternative, but felt a statement should be included that would allow "in the future the development of water, manipulation of habitat, and allow access to department personnel to manage the wildlife resource."

The New Mexico Department of Agriculture's (NMDA) comments stated that the impacts to the range livestock industry for the West Potrillo Mountains and Mount Riley WSAs were inadequately addressed and also that "Manageability concerns, split-estate, and resource conflicts in this area are significant enough, in our opinion, to question the appropriateness of the proposed action."

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million acre wilderness proposal advocated by the New Mexico Wilderness Coalition. Alternative W included the West Potrillo Mountains and Mount Riley WSAs and recommended wilderness designation for the entire WSA. Specific comments were directed to the West Potrillo Mountains and Mount Riley WSAs by 41 commentators, of which 33 supported wilderness designation and 8 opposed.

During public scoping on the split-estate issue held in early 1986, 7 commentators specifically favored the addition of split-estate to the affected WSAs and 5 commentators opposed it.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the West Potrillo Mountains and Mount Riley WSAs by 456 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

Public Review of the Revised Draft EIS

No. 0100-1

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "In the southern portions of the West Potrillo Mountain WSA, the BLM amended the boundary to exclude six grandfathered cinder claims, three State sections, and one split-estate section. . . The Coalition proposes that only the cinder claims and the way leading to them be cherry-stemmed out of the WSA. In addition, the Coalition proposes that a small portion of Guzman's Lookout Mountain that has been mined be cherry-stemmed out, even though no mining activities are currently taking place on the mountain."

Response: The amended boundary as proposed by BLM would exclude the mining operation currently being conducted on the cinder claims as a valid existing right. In addition, the amended boundary would exclude 1,280 acres of State land, 640 acres of split-estate, 3 cherry-stemmed roads, 40 acres of cherry-stemmed private land, 6½ miles of vehicle ways, 1 mile of fence, 1,400 acres with high potential for cinders, and mining impacts on Guzman's Lookout Mountain.

No. 0100-2

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The largest Coalition addition lies to the west of the West Potrillo Mountains WSA. Members of the Coalition have taken several field trips to this area and find that the majority of the 'ways' that were used to define the WSA boundary do not meet the definition of a road."

Response: The area west of the West Potrillo Mountains WSA, including the Eagle Nest roadless area, was dropped by the State Director in the New Mexico Wilderness Study Area Decisions (November 1980). This decision was based on BLM's finding that the area does not offer outstanding opportunities for solitude or primitive recreation. The El Paso Wilderness Preservation Committee protested the decision, and the protest was denied. There was no appeal of that denial.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0100-3

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The other major Coalition addition to the West Potrillos is in the northeast corner. the boundary proposed by the Coalition is the water pipeline and the accompanying road, one half to two miles north of the current BLM boundary, for which no justification (no road, no pipeline, not even a trail) can be found. The Coalition boundary here also encompasses a large block of State land which has the same high quality wilderness characteristics as the WSA."

Response: The northeast boundary of the West Potrillo Mountains WSA was established by State Director decision in the New Mexico Wilderness Study Area Decisions (November 1980). There was no protest or appeal of this decision from conservation organizations. That boundary excluded three cherry-stemmed roads, 640 acres of State land in T. 25 S., R. 3 W, Section 32, as well as the large block of State land referenced in the comment. State land is not subject to BLM's wilderness inventory or study, therefore these lands were excluded from the West Potrillo Mountains WSA.

No. 0100-4

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "Finally, the east boundary of the West Potrillos in T. 26 S., R. 2 W., Section 34 is a little used way with no recent signs of blading or road construction. Likewise, no justification could be found for the west boundary of the Aden Lava Flow WSA in this section. The Coalition recommends that these boundaries be eliminated to form one large, diverse wilderness."

Response: During the intensive inventory, the road in section 34 was identified as a "road." The boundary for this portion of the West Potrillo Mountains WSA was placed at this road by decision of the State Director in the New Mexico Wilderness Study Area Decisions (November 1980). There was no protest or appeal of this decision by any conservation organization. The west boundary of the Aden Lava Flow WSA was placed in its present location based on the presence of roads, ways, fences, pipelines, and water developments which impact the naturalness of the area. This was also a State Director decision in the above mentioned document; there was no protest or appeal of this decision.

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WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0121-1

Name(s): Tom R. McKenna, McKenna Ranch

Comment: "2) The study area does not appear to be natural.

- a) There are six water wells with adjacent livestock handling corrals located within or directly on the border of the WSA. Each of these has a road leading to it.
- b) There are nine dirt livestock watering tanks within the WSA with roads leading directly to them.
- c) There are 14 miles of fence line within the WSA.
- d) There are numerous mining claims that have scarred the natural terrain.
- e) There is almost nowhere in the WSA, except between mountain peaks, where microwave towers, houses, roads, fences, railroads, powerlines, or range improvements cannot be seen."

Response: Naturalness refers to the requirement in Section 2(c) of the Wilderness Act that a wilderness area "generally appears to have been affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable." BLM acknowledges the existence of the rangeland developments within the WSA, however, it is felt that these developments are substantially unnoticeable in the WSA as a whole due to the large size and topographic features of the West Potrillo Mountains and Mount Riley WSAs. In addition, the fact that the developments are distributed throughout the WSAs lessens the impact on naturalness. The microwave towers, houses, railroads, and powerlines are all outside the WSA, and were determined by BLM to have no impact on naturalness within the WSAs themselves.

No. 0121-2

Name(s): Tom R. McKenna, McKenna Ranch

Comment: "3) The study area does not offer outstanding opportunity for solitude.

Due to its location in relation to El Paso, Texas, Las Cruces, New Mexico, Southern New Mexico Correctional Facility, various military installations, and the Southern Pacific Railroad, the WSA does not offer opportunity for solitude. Twenty-five (25) to thirty (30) trains pass the WSA daily and can be heard throughout the WSA. Numerous military and civilian aircraft overfly the WSA, almost hourly. There is a constant influx of vehicular traffic from nearby metropolitan area."

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0121-2 (concluded)

Response: During the initial wilderness inventory, it was determined that the West Potrillo Mountains did offer outstanding opportunities for solitude. The BLM Wilderness Study Policy defines solitude as "the state of being alone or remote from habitations; isolation...the emphasis is on the opportunities a person has to avoid the sights, sounds, and evidence of other people within a particular WSA" Due to the size and topography of the area, BLM feels that there is ample opportunity for solitude within the WSA. BLM also recognizes the fact that outside sights and sounds do occasionally impact opportunities for solitude within the WSA; however, it is felt that these impacts are not significant and do not detract from the overall quality of the solitude experience in the WSA.

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No. 0139

Name(s): Steve Marlatt, New Mexico BLM Wilderness Coalition

Comment: "The amended boundary on the south end of the West Potrillos was designed to exclude 600 acres of cinder claims in Township 29 south, range 3 west, section 6. There was no other explanation given for the amended boundary excluding some of the other areas down there, a total of 8,005 acres of BLM land has been excluded in that region, and the only impact that we can find was the cinder claims.

There's one section of split-estate land and three sections of state land but throughout the rest of the WSA these have been recommended for acquisition, so this does not seem to be a logical reason for excluding it."

Response: The amended boundary on the south end of the West Potrillo Mountains was drawn as it was to exclude not only the cinder claims and private land, but also to exclude two cherry-stem roads totalling 4 1/2 miles, two sections of State land, and several imprints on Guzman's Lookout Mountain. The amended boundary for the most part follows a way which connects the two cherry-stemmed roads. This provides a readily identifiable boundary on the ground.

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WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0145-1

Name(s): Ernest Harman

Comment: "I do not feel that public comments specifically relating to the WSA ¹West Potrillo Mountains/Mt. Riley³ were given proper weight during the entire environmental impact process."

Response: All public comments which provided substantive information on the suitability or nonsuitability of an area as wilderness were given due consideration throughout the environmental impact process. In some cases, the analysis or recommendation for particular WSAs was changed as a result of public comment. Those comments that were essentially votes for or against a proposal or recommendation were given less weight but are considered in the final recommendation.

No. 0145-2

Name(s): Ernest Harman

Comment: "The environmental impact on water resources has not been adequately addressed in the EIS...if one looks at the current legal battle between the State of New Mexico and El Paso, Texas over water rights - most of which water is derived from the WSA - it is obvious that there is significant potential use. Yet this potential use is not considered by the EIS."

Response: In the Las Cruces District, none of the WSAs, except the Gila Lower Box, have any significant amounts of surface water. Wilderness designation will have no effect on groundwater resources and their use other than limit the number, type, and construction of wells within the wilderness area. Well fields and groundwater pumping of the magnitude proposed by the City of El Paso would not be allowed in wilderness areas. However, wilderness designation would have no impact on the location and development of El Paso's proposed well fields in Southern Dona Ana County since the well fields are located 6 - 10 miles east of the WSA boundary. The West Potrillo Mountains and Mount Riley WSAs overlap both the Lower Rio Grande and the Mimbres Valley Water basins. If the areas are designated wilderness there would be no impact on the pumping of water from the two basins.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0145-3

Name(s): Ernest Harman

Comment: "Throughout the entire EIS process, the impacts on livestock grazing use has been very inadequately addressed. The New Mexico Department of Agriculture comments on the New Mexico Wilderness Supplemental Draft Environmental Assessment (BLM 1983) were that the impacts to the range livestock industry for the West Potrillo and Mount Riley WSAs were inadequately addressed. Yet the final EIS makes no further attempt to assess the impact of wilderness designation on livestock grazing within the WSAs."

Response: BLM's Wilderness Management Policy states that there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The Policy also states that wilderness designation should not prevent the maintenance of existing fences or other livestock management improvements, nor the construction and maintenance of new fences or improvements which are consistent with allotment management plans or which are necessary for the protection of the range. Where practical alternatives do not exist, maintenance or other activities may be accomplished through the occasional use of motorized equipment. Therefore, since livestock numbers would not be reduced and since new rangeland improvements could be constructed and existing ones maintained consistent with wilderness management guidelines, and because the use of motorized equipment could be allowed in certain situations, it is felt that impacts of wilderness designation on livestock grazing use levels and operations would not be significant.

No. 0145-4

Name(s): Ernest Harman

Comment: "There are four, rather than two dirt tanks, located on public lands within the WSA of Allotment 3029. In addition, there are four dirt tanks on state lands located within 3029's portion of the WSA. The impact of and on wilderness designation is as great for these tanks as for those dirt tanks located on public land. These tanks have not, however, been considered in the Environmental Impact Statement (EIS). There are also two livestock watering troughs with pipeline running to them within the WSA of Allotment 3029 not considered in the EIS."

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0145-4 (concluded)

Response: In 1985 and 1986, all rangeland developments in WSAs in the Las Cruces/Lordsburg Resource Area were reinventoried. Table 5 of the Wilderness Analysis Reports contained in this Final has been updated accordingly. Projects on State land were not inventoried or considered in the analysis since State land is not subject to wilderness inventory or available for wilderness designation. As non-Federal inholdings in a WSA, reasonable access would be granted by BLM for access to rangeland developments or for other uses on the State land. Should BLM acquire these lands at some future date, their wilderness values would be assessed, and in all likelihood those that are totally surrounded by WSAs or designated wilderness would receive that same designation and be considered part of the WSA or wilderness, as the case may be. In that case, rangeland developments on these acquired State sections would be considered in the same regard as those on other public land within the WSA or wilderness. These developments could continue to be used and maintained subject to restrictions to preserve the area's wilderness values. Where practical alternatives do not exist, maintenance or other activities may be accomplished through the occasional use of motorized equipment. The impacts of wilderness designation on these rangeland improvements would be the same as impacts on rangeland improvements on public land included in the WSA.

No. 0145-5

Name(s): Ernest Harman

Comment: "One wonders if there is not a hidden agenda regarding livestock grazing use since in Table 2 of Appendix 40/41 (Summary of Significant Impacts) under the No Wilderness Alternative one of the impacts listed is that 'continuation of livestock grazing activities and construction and maintenance of associated rangeland developments would also decrease naturalness'.

This certainly implies that under wilderness designation livestock grazing activities will be impacted to a great extent."

Response: While livestock grazing would continue under wilderness designation, the environmental impacts of grazing management would be much less than under nonwilderness management due to restrictions to protect wilderness values. For example, within wilderness areas, the use of motorized or mechanized equipment generally would not be allowed except in special instances as permitted and prescribed by BLM. The construction of roads would not be permitted. The installation of rangeland developments

No. 0145-5 (concluded)

requiring surface disturbance such as dirt tanks or pipelines would be restricted as to design, location, type of construction, and equipment used in construction. In some cases, these types of projects may not be permitted. Brush control projects and prescribed burns generally would not be allowed.

Under the No Wilderness Alternative, rangeland management activities would not be constrained by the requirement to maintain wilderness values. Use of motorized equipment, development of new roads, installation of rangeland developments resulting in surface disturbance, and other types of vegetation manipulation projects would be allowed as determined by sound livestock and rangeland management principles and BLM's general resource and environmental protection guidelines. As a result, it is expected that within the next 50 years, naturalness and solitude in an area would be degraded to the point that the area would no longer meet wilderness criteria.

No. 0145-6

Name(s): Ernest Harman

Comment: "The intrusions of man impacting on the WSA are varied, numerous, and obvious. These include, but are not limited to roads, corrals, houses, mining claims, fences, microwave towers, railroads, highways, and water developments. The WSA is vast but certainly not natural.

Solitude is an almost non-existent opportunity in the WSA. This is largely due to its proximity to major metropolitan centers. Solitude is defined as being free of the sights and sounds of others. In the WSA one can see and/or hear railroad traffic at the rate of 25 - 30 trains per day, low flying military and civilian aircraft on an almost hourly basis, interstate highways, microwave towers, houses, range improvements, highline wires, etc."

Response: Naturalness refers to the requirement in Section 2(c) of the Wilderness Act that a wilderness area "generally appears to have been affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable." Natural does not mean pristine. BLM acknowledges the existence of rangeland developments within the WSA, however, it is felt that these developments are substantially unnoticeable in the WSA as a whole due to the large size and topographic features of the West Potrillo Mountains and Mount Riley WSAs. In addition, the fact that the developments are distributed throughout the WSAs lessens the impact on naturalness. The microwave towers, houses,

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0145-6 (concluded)

railroads, and powerlines are all outside the WSA, and were determined by BLM to have no impact on naturalness within the WSAs themselves.

During the initial wilderness inventory, it was determined that the West Potrillo Mountains did offer outstanding opportunities for solitude. The BLM Wilderness Study Policy defines solitude as "the state of being alone or remote from habitations; isolation...the emphasis is on the opportunities a person has to avoid the sights, sounds, and evidence of other people within a particular WSA..." Due to the size and topography of the area, BLM feels that there is ample opportunity for solitude within the WSA. BLM also recognizes the fact that outside sights and sounds do occasionally impact opportunities for solitude within the WSA; however, it is felt that these impacts are not significant and do not detract from the overall quality of the solitude experience in the WSA.

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No. 0274

Name(s): D. Schuhmann

Comment: "My first concern, as a resident of the Las Cruces area, is that there would be no wilderness areas designated near Las Cruces even though there are several WSAs that apparently have been dropped from consideration. Las Cruces is a rapidly growing area, and while many would argue that because of this, we need to make available all the land we can for growth and expansion, I believe that we need to establish some wilderness areas so that people in Las Cruces and the surrounding areas can have a wilderness experience without having to go over 100 miles to get there."

Response: Under the Proposed Action, the Organ Mountains WSA, the Aden Lava Flow WSA, and the West Potrillo Mountains and Mount Riley WSAs are all recommended suitable for wilderness designation. All of these WSAs are within 30 miles of Las Cruces.

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WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0286-1

Name(s): New Mexico Farm and Livestock Bureau

Comment: "BLM does not follow their own agency definitions of certain words and phrases which are found in the 'BLM Road Definition' (Wilderness Inventory Handbook). For example, using BLM's own road definitions, the West Potrillo Wilderness Study Area (WSA) has over 60 miles of roads which were not inventoried by the BLM. The same is true for other WSAs such as Aden Lava Flow."

Response: The BLM Wilderness Inventory Handbook (BLM 1978) defines roadless as the "absence of roads which have been improved and maintained by mechanical means to insure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road." During the wilderness inventory, it was determined by BLM that the 72 miles of vehicle ways in the West Potrillo Mountains - Mount Riley and Aden Lava Flow inventory units did not meet the definition of a 'road.' Therefore these units were designated as WSAs. That decision was appealed to the Interior Board of Land Appeals (IBLA) by a number of individuals. Partial basis for the appeal was that certain routes within the WSAs described as ways by BLM were indeed roads as defined by the Wilderness Inventory Handbook. The appeal was denied by the IBLA and BLM's decision that the WSAs were roadless was affirmed.

No. 0286-2

Name(s): New Mexico Farm and Livestock Bureau

Comment: "The naturalness of the Aden, West Potrillo, and Mt. Riley WSAs is impaired by railroads, an El Paso Natural Gas pumping station, a state prison, microwave towers, windmills, water storage tanks, working corrals, roads, powerlines, fences, and houses."

Response: Naturalness refers to the requirement in Section 2(c) of the Wilderness Act that a wilderness area "generally appears to have been affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable."

The railroad, El Paso Natural Gas pumping station, state prison, microwave towers, powerlines and houses are all outside the Aden Lava Flow, West Potrillo Mountains, and Mount Riley WSAs; and therefore have no impact on naturalness within the WSAs themselves. Rangeland developments including windmills, storage tanks, corrals and fences, are present within the three WSAs and are listed in the respective Wilderness Analysis Reports. BLM feels that in the WSAs as a whole, these developments are

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0286-2 (concluded)

substantially unnoticeable and do not detract from the naturalness of the WSAs. Likewise, it is felt that the roads along the edge and those cherry-stemmed out of the WSAs and the vehicle ways within the WSAs do not significantly impact the naturalness of the three WSAs.

No. 0286-3

Name(s): New Mexico Farm and Livestock Bureau

Comment: "The Mt. Riley, West Potrillo and Aden WSAs lack solitude. Furthermore, as recreation use in these WSAs increases with wilderness designation, opportunities for solitude will diminish. Air traffic over these three WSAs is already excessive and destructive of solitude. In particular, low flying helicopters, military training, commercial flights, the Southern Pacific railroad (20 - 30 trains a day), and occasional military maneuvers are major factors in the lack of solitude in these WSAs."

Response: During the initial wilderness inventory, it was determined that the Aden Lava Flow, West Potrillo Mountains, and Mount Riley WSAs did offer outstanding opportunities for solitude. The BLM Wilderness Study Policy defines solitude as "the state of being alone or remote from habitations; isolation . . . the emphasis is on the opportunities a person has to avoid the sights, sounds, and evidence of other people within a particular WSA" Due to the size and topography of the WSAs, BLM feels that there is ample opportunity for solitude within the WSAs. BLM also recognizes the fact that outside sights and sounds do occasionally impact opportunities for solitude within the WSAs. However, it is felt that these impacts are not significant and do not detract from the overall quality of the solitude experience in the three WSAs.

Any use of the area by the military prior to wilderness designation would have to be consistent with the Interim Management Policy and Guidelines for Lands Under Wilderness Review. Should the area be designated wilderness, only use requiring a wilderness environment and of a low impact nature may be allowed. Use of motorized or mechanized equipment would be prohibited.

WEST POTRILLO MOUNTAINS AND MOUNT RILEY

No. 0286-4

Name(s): New Mexico Farm and Livestock Bureau

Comment: "Primitive and unconfined recreation was judged by the BLM to be less than outstanding in the Aden, Mt. Riley and West Potrillo WSAs. Due to the proximity of these WSAs to several major metropolitan areas and the increasing number of WSA-users, primitive and unconfined recreation is a near impossibility."

Response: While primitive and unconfined recreation opportunities are less than outstanding in the Aden Lava Flow and Mount Riley WSAs, such opportunities are considered outstanding in the West Potrillo Mountains WSA due to the area's large size and blocked-up configuration.

As population increases in the nearby El Paso - Las Cruces area, use of the WSAs will likely increase. However, due to the large size of the WSAs, the dispersed nature of the recreation, and the accessibility of all portions of the WSAs, it is not expected that visitor use will have a negative impact on existing primitive and unconfined recreation opportunities.

No. 0286-5

Name(s): New Mexico Farm and Livestock Bureau

Comment: "Inventories taken on the Aden Lava Flow, West Potrillo, and Brokeoff Mountains WSAs were incorrect and incomplete in the DEIS/NMSWS... For example, natural waterholes which were fenced and dirt tanks on the Aden Lava Flow WSA were not inventoried by the BLM."

Response: The original inventories did overlook a number of rangeland developments in the WSAs. In 1985 and 1986, rangeland developments in many of the WSAs were rechecked and the inventories were updated. Additional projects found were added to the inventories and all projects were double checked as to the accuracy of their identified location. These changes can be found on Table 5 in the WARS contained in this Final EIS.

APPENDIX 42

BROKEOFF MOUNTAINS WSA (NM-030-112)

I. GENERAL DESCRIPTION

A. Location

The Brokeoff Mountains Wilderness Study Area (WSA) is located in the southeastern corner of Otero County, New Mexico (T. 24-26 S., R. 19-20 E.), just north of Guadalupe Mountains National Park.

The U.S. Geological Survey (USGS) topographic maps covering the WSA are the Cienega School, El Paso Gap, La Paloma Canyon, Panther Canyon, and Sheep Draw, New Mexico quadrangles. All of these maps are at the 15-minute scale.

B. Climate and Topography

Hot summers (60°-100°F) and mild winters (25°-55°F) characterize the WSA. Precipitation occurs primarily during the summer and ranges between 8 and 14 inches annually.

The WSA consists of a desert mountain range which follows a north-south trend and abuts the southwestern wall of the Guadalupe Escarpment near the New Mexico-Texas State Line. The range gradually ascends from an average height of 4,600 feet in the northern half of the WSA to a high point of 6,550 feet on Cutoff Ridge.

Two canyons, each 500-600 feet deep, and a ridge are the dominant topographic features. Chosie Canyon (with its tributary Wildcat Canyon) and Humphrey Canyon (which splits into Panther and West Dog Canyons) drain to the west and their drainages engulf the central two-thirds of the WSA. Cutoff Ridge, in the southernmost portion of the WSA, rises 3,000 feet above the surrounding terrain and leads directly to the Guadalupe Escarpment. Several smaller ridges and canyons are present in the central and northern portions of the WSA while the western boundary consists of flat terrain.

C. Land Status

The WSA contains 31,606 acres of public land and 1,520 acres of State inholdings. (See Map 42-1 for land status within the WSA.)

D. Access

The western boundary of the WSA is accessible from privately maintained ranch roads branching off State Highway 506. These roads can be followed around the northern and eastern edges of the WSA.

BROKEOFF MOUNTAINS WSA (NM-030-112)

Proposed Action-No Wilderness Alternative

MAP 42-1 LAND STATUS

Legend

- WSA BOUNDARY
- - - AMENDED BOUNDARY

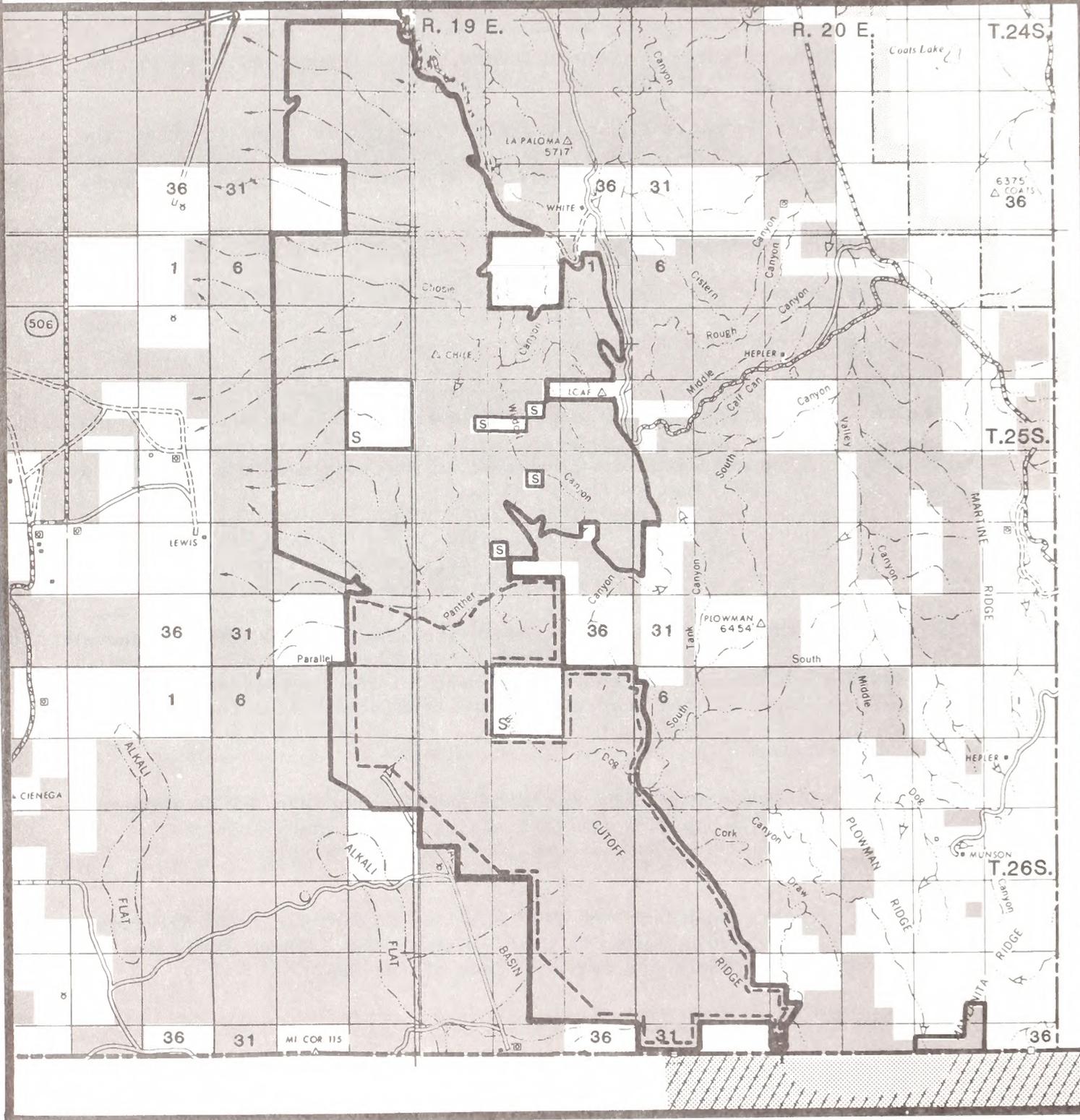
Land Status

- BLM
- PRIVATE
- STATE

- Guadalupe Mountains Wilderness Area
- Guadalupe Mountains National Park

Scale: 1/2 Inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis, as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A detailed description of those actions associated with the proposal and alternatives is provided in Table 1. The proposed action for the Brokeoff Mountains WSA is the No Wilderness Alternative. Under this alternative, 31,606 acres would be recommended nonsuitable for wilderness designation. The area recommended nonsuitable contains numerous intrusions in the form of vehicle ways and rangeland developments. Wilderness values are generally of marginal quality over much of the area.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Including this Alternative
Expanding the WSA	The New Mexico BLM Wilderness Coalition recommended enlarging the WSA to approximately 55,000 acres. BLM inventoried the enlarged area during the intensive wilderness inventory and determined it lacked wilderness values and contained several roads. As a result, the area outside the WSA was dropped from further consideration by the Wilderness Study Area Decisions in 1980. Expanding the boundary through the acquisition of State land to enhance management is addressed as part of the manageability issue.

Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on Oil and Gas Exploration and Development	Although impacts to oil and gas exploration and development were identified in the Las Cruces District EA and WAR as a significant issue, further evaluation shows that there would be no significant impacts to this resource because oil and gas potential is low.

Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	31,606 acres were identified during the inventory as having wilderness values.
Amended Boundary	This boundary adjustment was evaluated to balance resource conflicts and wilderness values.
No Wilderness (Proposed Action)	The No Action Alternative required by NEPA.

Environmental Issues Selected for Detailed Analysis

The primary issues for the Brokeoff Mountains WSA are the impacts on the quality of the area's wilderness values and impacts on livestock grazing use levels.

Concerns regarding livestock grazing use levels include the inconvenience to livestock operators from vehicle restrictions under wilderness designation, as well as an expected increase in vandalism and harassment to livestock if it is not designated wilderness.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	Amended Boundary	No Wilderness (Proposed Action)
<p>MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 31,606 ACRES AS WILDERNESS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 13,236 ACRES. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>MANAGE 31,606 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>
<p>-Close 7 miles of vehicle ways which currently receive low use (less than 100 vehicles per year).</p>	<p>-Require permits for vehicular access to 2 storage tanks and 1 drinking trough.</p>	<p>-Vehicle use would be allowed to continue on 7 miles of ways. Total vehicle use is estimated to be less than 100 vehicle per year.</p>
<p>-Require permits for vehicular access to one dirt tank, 5 storage tanks, and corrals.</p>	<p>-Require permits for vehicular access to 2 storage tanks and 1 drinking trough.</p>	<p>-Vehicular restrictions for maintenance of rangeland developments would not apply. Access for inspections and minor repairs would be allowed without restrictions. Access is estimated to be one trip per week.</p>
<p>-31,606 acres with low potential for both energy and nonenergy minerals would be closed to future oil and gas leasing and mining claim location.</p>	<p>-13,236 acres with low potential for both energy and nonenergy minerals would be closed to leasing and mining claim location.</p>	<p>-31,606 acres with low potential for both energy and nonenergy minerals would be open to leasing and mining claim location. Surface disturbing exploration and development activity is not projected due to the low mineral potential of the WSA.</p>
<p>-Attempts would be made to acquire 4,440 acres of State land.</p>	<p>-Attempts would be made to acquire 1,920 acres of State land.</p>	<p>-No special attempts would be made to acquire State land.</p>
<p>-Current livestock grazing levels of approximately 9 head per section per year (5,411 ALMs) would continue.</p>	<p>-Current livestock grazing levels of approximately 9 head per section per year (5,411 ALMs) would continue.</p>	<p>-Current livestock grazing levels of approximately 9 head per section per year (5,411 ALMs) would continue.</p>
<p>-Four pipelines with troughs, 1 dirt tank, and 2½ miles of fence identified in the White Sands RMP could be constructed if nonimpairing and necessary for wilderness or rangeland protection. Some projects would probably not be allowed.</p>	<p>-Construction of the dirt tank identified in the White Sands RMP could be allowed if nonimpairing and necessary for wilderness or rangeland protection.</p>	<p>-Four pipelines with troughs, 1 dirt tank, and 2½ miles of fence identified in the White Sands RMP could be constructed without constraints to protect wilderness values. Up to 4 miles of vehicle access routes would be constructed.</p>
<p>MANAGE 18,370 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>MANAGE 18,370 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>	<p>MANAGE 18,370 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN:</p>
<p>-18,370 acres would be open to oil and gas leasing and mining claim location. Surface disturbing exploration and development activity is not projected due to low mineral potential of the WSA.</p>	<p>-18,370 acres would be open to oil and gas leasing and mining claim location. Surface disturbing exploration and development activity is not projected due to low mineral potential of the WSA.</p>	<p>-18,370 acres would be open to oil and gas leasing and mining claim location. Surface disturbing exploration and development activity is not projected due to low mineral potential of the WSA.</p>
<p>-Current livestock grazing levels of approximately 9 head per section per year (5,411 ALMs) would continue.</p>	<p>-Current livestock grazing levels of approximately 9 head per section per year (5,411 ALMs) would continue.</p>	<p>-Current livestock grazing levels of approximately 9 head per section per year (5,411 ALMs) would continue.</p>
<p>-Four pipelines with troughs, 1 dirt tank, and 2½ miles of fence identified in the White Sands RMP could be constructed without constraints to protect wilderness values. Up to 4 miles of vehicle access routes would be constructed.</p>	<p>-Four pipelines with troughs, 1 dirt tank, and 2½ miles of fence identified in the White Sands RMP could be constructed without constraints to protect wilderness values. Up to 4 miles of vehicle access routes would be constructed.</p>	<p>-Four pipelines with troughs, 1 dirt tank, and 2½ miles of fence identified in the White Sands RMP could be constructed without constraints to protect wilderness values. Up to 4 miles of vehicle access routes would be constructed.</p>
<p>-Vehicle use would be allowed to continue on 4 miles of ways. Total vehicle use is estimated to be less than 100 vehicles per year.</p>	<p>-Vehicle use would be allowed to continue on 4 miles of ways. Total vehicle use is estimated to be less than 100 vehicles per year.</p>	<p>-Vehicle use would be allowed to continue on 7 miles of ways. Total vehicle use is estimated to be less than 100 vehicle per year.</p>
<p>-Vehicular restrictions for maintenance of rangeland developments would not apply. Access for inspections and minor repairs would be allowed without restrictions. Access is estimated to be one trip per week.</p>	<p>-Vehicular restrictions for maintenance of rangeland developments would not apply. Access for inspections and minor repairs would be allowed without restrictions. Access is estimated to be one trip per week.</p>	<p>-Vehicular restrictions for maintenance of rangeland developments would not apply. Access for inspections and minor repairs would be allowed without restrictions. Access is estimated to be one trip per week.</p>

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/Acreage	Major Environmental Issues
	Impacts on Wilderness Values
All Wilderness (31,606 acres)	The area's natural appearance, scenic quality, and outstanding opportunities for solitude and primitive recreation (including hiking, backpacking, nontechnical rock climbing, photography, and sightseeing) would be maintained. There could be a 10-20 percent increase in the quality of naturalness and opportunities for solitude as a result of closing 7 miles of vehicle ways.
Amended Boundary (13,236 acres recommended suitable; 18,370 acres recommended nonsuitable)	The area's highest quality wilderness values would be maintained. The quality of the outstanding opportunities for solitude and primitive recreation (hiking and backpacking) would be reduced by 20 percent since the quality of these values are partially dependent of the area's size. This loss would be offset by proximity of designated wilderness in the Guadalupe Mountains National Park. In the nonsuitable area, loss of wilderness values would occur in the long-term as a result of continued livestock grazing operations with associated rangeland developments, and vehicle-related recreation.
No Wilderness (31,606 acres) (Proposed Action)	The area's natural appearance, outstanding opportunities for solitude and primitive recreation, and scenic quality would probably be retained in the short-term. However, in the long-term, wilderness values would diminish by 20-30 percent as a result of continued livestock grazing operations, construction of rangeland developments, and vehicle-related recreation.



View of the West Side of the Brokeoff Mountains WSA.

BROKEOFF MOUNTAINS

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The Brokeoff Mountains consist of north to northwest-trending blocks of faulted Permian sediments. These sediments were deposited approximately 250 million years ago along the northwest shelf of the Delaware Basin, a prolific oil producing area. The location of the basin fluctuated through the Permian period, resulting in horizontal and vertical facies changes representing basin, basin margin, and shelf environments. Dolomite, limestone, and lesser amounts of gypsum, sandstone, and shale are the major lithologic units present within the Brokeoff Mountains. These rocks often contain fossils which are generally molds or silica replacements of poor quality, with no unique significance.

Sediments in the Brokeoff Mountains dip westward into the adjacent Crow Flats syncline and are separated from the Guadalupe Mountains to the east by Dog Canyon, a complex down-dropped fault block. Closely spaced north to northwest-trending faults of relatively recent age are common throughout the range.

B. Water

The Brokeoff Mountains WSA is situated within a closed basin (Salt Basin) which comprises approximately 5,900 square miles in Texas and New Mexico.

Principal drainage courses within the WSA include Chosie and West Dog Canyons which empty on the alkali flats to the west. Streams within these drainages flow for only brief periods following heavy precipitation.

Ground water in the WSA and to the immediate west occurs primarily in two geologic units: Bone Springs limestone and valley fill. In the valley to the west, water is normally less than 200 feet below the surface; in the upland area bordering the valley bottom, the depth normally exceeds 400 feet. Significant recharge to the ground water occurs in the WSA through infiltration in the large network of ephemeral streams.

C. Soils

Five soil associations are present in the Brokeoff Mountains WSA (USDA 1981).

Soil Association	Acres	Percent of WSA	Texture	Slope
Rock Outcrop--Lozier Complex	27,118	85.7%	Gravelly Loam	20-65%
Reakov-Tome--Tencee Complex	3,139	10%	Silt Loam	0-5%
Gypsum Land--Holloman Complex	313	1%	Very Fine Sandy Loam	0-5%
Ector--Rock Outcrop Complex	94	.2%	Gravelly Loam	20-50%
Lozier--Rock Outcrop Complex	942	3%	Very Gravelly Loam	5-20%
TOTAL	31,606			

D. Vegetation

1. General

Three range sites are present in the Brokeoff Mountains WSA.

Range Sites	Federal Acres	Percent of WSA	Major Vegetation
Limestone Hill	28,154	89%	Grassland (black grama, ring muhly, bush muhly, threeawn, slim triden, fluffgrass) Scattered Pinyon-Juniper
Gravelly Loam	3,139	10%	Grassland (black grama, dropseed, tobosa, burro grass) Desert Shrub (broom snakeweed, yucca, winterfat, creosote)
Gypsum	313	1%	Grassland (gyp grama, alkali sacaton, burro grass, tobosa) Desert Shrub (Mormon tea, chamisa, creosote)
TOTAL	31,606		

2. Rare Plant Species

There are no known Federally-listed threatened or endangered plant species within the WSA. The following rare plants may occur in the Brokeoff Mountains.

Species: Sophora gypsophilia var. guadalupensis

Status: State-listed endangered; Federal candidate.

Habitat: Dry limestone slopes with one-seed juniper; 5,000-6,400 feet.

Species: Lepidospartum burgessii

Status: State-listed endangered; Federal candidate.

Habitat: Gypseous ridges and flats; 4,500 feet.

E. Wildlife

A variety of wildlife utilize the different habitat types created by the various geomorphic features and diversity of vegetation of the Brokeoff Mountains (USDI 1974).

Cliffs, ledges, and rock outcrops provide suitable nesting and perching habitat for numerous bird species, particularly raptors. Canyon bottoms and mountain slopes throughout the area are utilized by mule deer year-round; however, populations fluctuate seasonally depending on the

BROKEOFF MOUNTAINS

severity of winters in the nearby Guadalupe Mountains. Elk occasionally migrate from the Guadalupe Mountains and may be seen in the fall and winter. The degree to which these elk use the Brokeoff Mountains is not believed to be critical to the herd's viability.

F. Visual

The Brokeoff Mountains break off from the southwestern wall of the Guadalupe Escarpment. The Range then extends to the north, paralleling the western wall of the Escarpment, and provides scenic vistas for visitors to the Guadalupe Mountains National Park. Approximately 29,642 acres are within a Visual Resource Management (VRM) Class II area, while 1,964 acres along the western boundary are Class III.

G. Cultural

Archaeological information for the Brokeoff Mountains is incomplete. One processing/procurement site has been found in the area; however, it is not believed to be unique. Site density within the WSA is believed to be low.

H. Air

Generally the air quality of the Brokeoff Mountains WSA is good. The WSA has a Class II air quality classification, which allows for moderate deterioration associated with moderate well-controlled industrial and population growth. The nearest major sources of pollution are in El Paso, Texas and Ciudad Juarez, Mexico, 80 miles to the west.

The WSA adjoins Guadalupe Mountains National Park. The Park has been given Class I air quality classification.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

1. Energy Minerals (Oil and Gas)

Map 43-2 shows the locations of lands under mineral leases.

As of April 15, 1987, there were 6 Federal oil and gas leases in the WSA; all are post-Federal Land Policy and Management Act (FLPMA).

The Brokeoff Mountains WSA is adjacent to the western edge of the Delaware Basin, a known oil and gas producing area. Permian strata in the Brokeoff Mountains has been subjected to weathering and erosion and are therefore unlikely reservoirs for oil and gas accumulations. Oil and gas source and reservoir rocks may exist at depth in older Paleozoic strata, but it is probable that any previously existing oil and gas deposits were exposed to freshwater flushing because of the abundant faulting of the area. Although 3 wells drilled north of the WSA (6½ to 7½ miles) had shows of oil or gas, two wells drilled within 1 mile of the WSA boundary (T. 25 S., R. 20 E., Section 18 and T. 25 S., R. 19 E., Section 31) were dry.

Primarily because of the extensive faulting in the area, the potential for the discovery of oil and gas deposits within the Brokeoff Mountains WSA is low.

Teledyne Exploration Company conducted geophysical surveys adjacent to the western boundary of the WSA in the fall of 1983. Although future exploration for petroleum may occur in the WSA area, development is unlikely within the WSA.

2. Nonenergy Minerals

No mining claims were located in the WSA as of April 15, 1986.

Limestone and dolomite suitable for building stone are plentiful throughout the WSA. Some of the major drainages may contain material suitable for aggregate. There are no prospective markets for these resources, however, and the potential for these materials is considered low.

BROKEOFF MOUNTAINS WSA (NM-030-112)

Proposed Action-No Wilderness Alternative

MAP 42-2

MINING CLAIMS AND MINERAL LEASES*

Legend

-  WSA BOUNDARY
-  AMENDED BOUNDARY
- Land Status**
-  BLM
-  PRIVATE
-  STATE

 Post-FLPMA Oil and Gas Leases

FLPMA was passed October 21, 1976.

*No mining claims were recorded with the BLM within the WSA as of April 15, 1986.

Scale: 1/2 Inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.

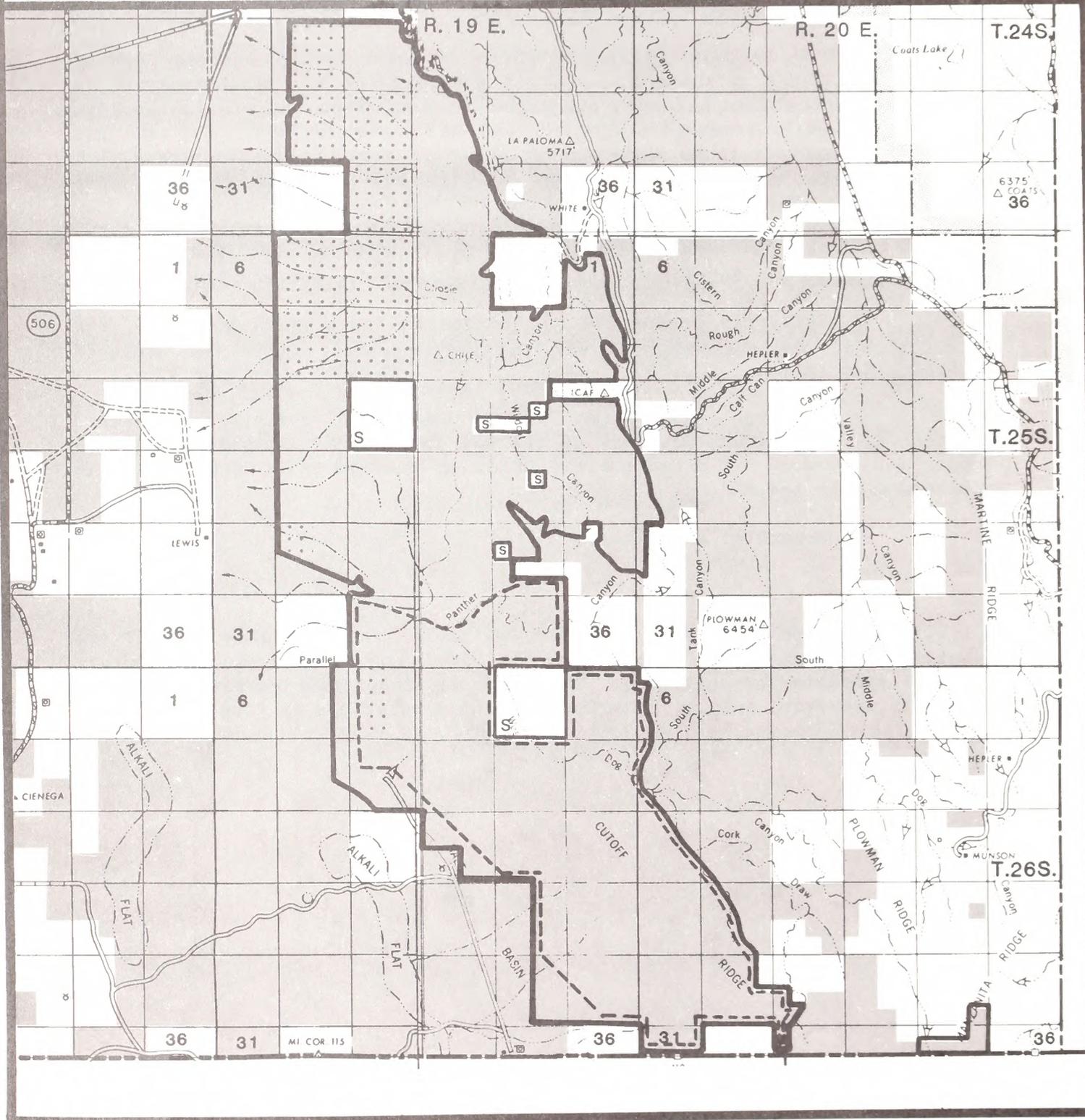


TABLE 3
MINERAL RESOURCES POTENTIAL OF THE BROKEOFF MOUNTAINS WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*	Approximate Acreage Amended Boundary*
Energy Minerals				
Oil and Gas	Extensively faulted pre-Permian sediments	Low	--	--
Nonenergy Minerals				
Building Stone	Permian limestones and dolomites	Low	--	--
Sand and Gravel	Quaternary alluvial deposits	Low	--	--

Note: *Acreage was not calculated for areas with low potential.

B. Watershed

There are no wells located within the WSA, however, several are situated in the surrounding area. The water quality is generally acceptable for livestock and irrigation. However, it is less acceptable for domestic uses due to a high concentration of bicarbonates and sulfates. There is no water available for recreational use.

C. Livestock Grazing

1. Allotments

There are eight grazing allotments located wholly or partially within the WSA. Four of these allotments (Hughes Brothers Partnership, Orland Hughes, John White, and Clifton Dean) graze sheep as well as cattle and horses. The other four allotments (Diamond A, Les Foster and D. D. Barker, Jim Ballantine, and Marlin Richardson) graze only cattle and horses. The sheep and cattle allotments are located in the mountainous areas on the east side of the WSA. The four cattle allotments are located in the foothills and lower areas on the west side of the WSA.

TABLE 4
ALLOTMENTS WITHIN THE WSA^{a/}

Allotment Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent Allotment
Clifton Dean 9008	2,582	576	1,270	282	49%
Hughes Brothers 9021	18,724	4,327	1,720	389	9%
Orland Hughes 9067	6,938	1,680	2,880	706	42%
Diamond A 9033	21,658	2,405	4,414	481	20%
Les Foster and D.D. Barker 9038	7,605	1,066	2,040	288	27%
Marlin Richardson 9039	19,310	3,686	10,920	2,064	56%
Jim Ballantine 9040	13,789	1,849	5,620	740	40%
John White 9062	11,007	1,842	2,850	461	25%
TOTAL			31,606	5,411	

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA^{a/}

Type of Development	Location
storage tank	T. 24 S., R. 19 E., Sec. 27
storage tank	T. 25 S., R. 19 E., Sec. 1
2 storage tanks	T. 25 S., R. 20 E., Sec. 15
storage tank	T. 26 S., R. 20 E., Sec. 20
corrals, storage tank, dirt tank	T. 26 S., R. 20 E., Sec. 18

NOTE: ^{a/} Information shown in tables reflect only Federal acres and animal unit months (AUMs), and rangeland developments on public land.

The White Sands Resource Management Plan (BLM 1986) identifies the following proposed rangeland developments for construction on allotments within the WSA: 4 pipelines with troughs, 1 dirt tank, and 2½ miles of pasture fence.

Maintenance, repair, and cleaning of dirt tanks occurs approximately every 5 years and requires the use of heavy equipment such as a bulldozer. Water hauling requires motorized access while other activities (e.g. livestock counts, fence maintenance, placing salt, and roundup) involve the use of both horses and motorized vehicles depending on the accessibility of a particular area and the magnitude of the work to be accomplished.

D. Recreation

The BLM has little visitor use data for the Brokeoff Mountains. Approximately 100-200 deer hunters are believed to visit the area every fall (Bruce Morrison 1982). Big game hunting is the primary use in the area and associated activities include off-road vehicle use, hiking, and camping.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The Brokeoff Mountains WSA generally appears to have been affected primarily by the forces of nature.

Imprints of man have their greatest impact in the northern half of the area. Although this portion of the WSA generally appears natural, its natural appearance is compromised by vehicular access ways and rangeland developments. Four miles of vehicular access ways cross this portion of the WSA. The most noticeable of these is a route which follows a ridge crest to a dirt tank and lacks both vegetative and topographic screening. Additional rangeland developments include: a white metal tank which can be seen for over a mile, two other storage tanks, and 23 miles of sheep fence.

Rangeland developments south of Humphrey Canyon include three revegetated dirt tanks, an abandoned drinking trough, 2 storage tanks, 3 miles of vehicle ways, and 10 miles of sheep fence. These developments are topographically screened and create little visual contrast.

b. Solitude

The area offers outstanding opportunities for solitude which are enhanced primarily by the WSA's size, boundary configuration, and rugged topography and, to a lesser degree, by vegetative screening, remoteness of various portions of the WSA, and designated wilderness to the south.

The WSA is fairly large and contains most of the Brokeoff Mountains Range. The WSA is approximately 12 miles long (north to south) and 2-5 miles wide. The size and rectangular shape enhances opportunities to find a secluded spot.

Nine canyons lie between the major ridges and empty to the west. These features divide into countless smaller ridges with drainages in between that provide screening and opportunities for seclusion. The western boundary of the WSA is less rugged, consisting primarily of flat to rolling terrain.

The rugged terrain and lack of vehicular access in the southern part of the WSA provide opportunities to find a secluded spot. In addition, this area is contiguous with the Guadalupe Mountains Wilderness Area which offers outstanding opportunities for solitude. The rugged terrain of the northern part of the WSA is sufficient to offer ample opportunities for solitude. However, vehicular access is greater and the topography is less challenging than in the southern part of the WSA.

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c. Primitive and Unconfined Recreation

The WSA offers outstanding opportunities for primitive and unconfined types of recreation. Hiking, backpacking, nontechnical rockclimbing, photography, and sightseeing opportunities are available in the WSA. These opportunities are based primarily on the WSA's size and topographic relief.

The WSA is blocked up so that visitors may spend several days hiking the Brokeoff Mountains. In addition, the adjacent Guadalupe Mountains Wilderness Area is managed by the National Park Service for primitive and unconfined types of recreation. The WSA is large enough to accommodate a 3-4 day trip. Longer trips may be taken by continuing into the Guadalupe Mountains Wilderness Area. Scenic vistas are present in the WSA and opportunities exist for sightseeing and photography. Deer are present and opportunities for big game hunting are available.

2. Special Features

The WSA contains outstanding scenic quality. Paleontological features are also present; however, these features are fairly common and are not believed to possess significant scientific or educational values. None of these features significantly contribute to the WSA's wilderness character.

3. Multiple Resource Benefits

Congressional designation of this area as wilderness would provide a greater degree of long-term protection for the area's wilderness and renewable resource values than would administrative designations available to the BLM.

4. Diversity

a. Ecosystems Present

The Bailey (1976) - Kuchler (1966) System classifies the area as being in the Chihuahuan Desert Province with potential natural vegetation of approximately 27,426 acres of grama-tobosa shrubsteppe and 34,180 acres of Trans-Pecos shrub savanna.

b. Distance From Population Centers

The Brokeoff Mountains WSA is a 3 hour drive from El Paso, Texas and a 4 hour drive from Las Cruces, New Mexico.

B. Manageability

The Brokeoff Mountains WSA is presently capable of being effectively managed to preserve its wilderness character over the long-term. In making this determination, several factors were evaluated, including: land status, existing management and access to inholdings, and management of contiguous National Park Service land.

The WSA contains 31,606 acres of public land and 1,520 acres of State inholdings. There are also 320 acres of State land (T. 26 S., R. 20 E. Section 32) which are surrounded by the WSA on three sides and the Guadalupe Mountains Wilderness Area on the fourth. Grazing is currently the only use of these inholdings and motorized access is available along vehicle ways and arroyo bottoms. Management of these lands does not presently conflict with wilderness preservation. However, manageability of the WSA could be improved by their acquisition (particularly the 320 acres lying between the WSA and the Guadalupe Mountains Wilderness Area) since the BLM could then ensure that they continue to be managed in a manner fully compatible with wilderness preservation. This would also increase the acreage contiguous to the Guadalupe Mountains Wilderness Area. That portion of the Guadalupe Mountains National Park that is contiguous to the WSA is designated wilderness. The fact that contiguous lands are specifically managed for wilderness purposes enhances the manageability of the Brokeoff Mountains WSA. Lands that should be considered for acquisition under the All Wilderness and Amended Boundary Alternatives are legally described below.

<u>Legal Description</u>	<u>Acres</u>
Additional Lands to be Acquired Under the All Wilderness Alternative	
State Land	
T. 25 S., R. 19 E., Section 2: All	640
Section 13: N $\frac{1}{2}$ N $\frac{1}{2}$	160
Section 14: N $\frac{1}{2}$ SW $\frac{1}{2}$, SW $\frac{1}{2}$ NE $\frac{1}{2}$, NE $\frac{1}{2}$ NE $\frac{1}{2}$	160
Section 15: NE $\frac{1}{2}$ SE $\frac{1}{2}$	80
Section 16: All	640
Section 23: SW $\frac{1}{2}$ NF $\frac{1}{2}$	40
Section 26: SW $\frac{1}{2}$ NW $\frac{1}{2}$, NE $\frac{1}{2}$ SW $\frac{1}{2}$, N $\frac{1}{2}$ SE $\frac{1}{2}$	160
Section 36: All	640
T. 24 S., R. 9 E., Section 32: All	640
TOTAL	3,160

Lands to be Acquired Under the Amended Boundary Alternative

State Land	
T. 26 S., R. 19 E., Section 2: All	640
Section 36: N $\frac{1}{2}$	320
T. 26 S., R. 20 E., Section 32: N $\frac{1}{2}$	320
TOTAL	1,280

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 31,606 acres of public land within the Brokeoff Mountains WSA would be recommended suitable for wilderness designation. (See Map 42-1 for WSA boundary.)

If designated wilderness, the existing uses and activities in the area and the potential uses identified in BLM planning documents (see Chapter III) would be managed under the constraints of the Wilderness Management Policy (WMP) (BLM 1981).

1. Impacts on Wilderness Values

Under wilderness designation, the WSA's naturalness and outstanding opportunities for solitude would be enhanced by 10-20 percent in the long-term by the closure of 7 miles of ways to motor vehicles and by limitations on livestock operators' use of motorized equipment in the WSA. The area's outstanding opportunities for primitive and unconfined recreation would be maintained in the long-term. The fact that the WSA is contiguous to the designated Guadalupe Mountains National Park wilderness to the south further enhances the wilderness values, especially recreation opportunities, in the Brokeoff Mountains.

Conclusion. Under the All Wilderness Alternative, the wilderness values of naturalness, outstanding opportunities for solitude and primitive recreation would be preserved in the long-term in the Brokeoff Mountains WSA. A 10-20 percent increase in the quality of naturalness and opportunities to experience solitude would result from closure of 7 miles of vehicle ways.

2. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 9 head per section per year (5,411 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 5 storage tanks, 1 dirt tank, and corrals. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

The White Sands RMP has identified 4 pipelines with troughs, 1 dirt tank, and 2½ miles of fence to be installed in allotments in the WSA. Some of these rangeland developments could be installed if it were determined through site-specific analysis to be necessary for the purpose of rangeland or wilderness protection. Road construction and motorized access would not be authorized.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. Amended Boundary

Under this alternative, 13,236 acres of public land within the southern part of the Brokeoff Mountains WSA would be recommended suitable for wilderness designation. A total of 18,370 acres in the northern part of the WSA would be recommended nonsuitable for wilderness designation. If the area recommended suitable is designated wilderness, existing uses and activities would be managed under the constraints of the Wilderness Management Policy (WMP) (BLM 1981). The remainder of the WSA would be managed according to the White Sands Resource Management Plan (RMP) (BLM 1986). This plan prescribes livestock grazing as the primary use of the area and identifies 4 pipelines with troughs and approximately 2½ miles of pasture fence to be built on allotments within the nonsuitable portion of the WSA. In addition, the nonsuitable area would be open to oil and gas leasing. Oil and gas exploration is expected to be minimal in the short-term, but could be significant in the long-term due to the WSA's proximity to a known oil and gas producing area.

1. Impacts on Wilderness Values

Wilderness designation would benefit the wilderness values of the southern part of the WSA by providing them with long-term Congressional protection. This part of the WSA is more natural than the northern area. Opportunities for solitude and primitive recreation would be reduced by 20 percent as a result of the reduction in area designated as wilderness. This loss however, would be offset by the fact the southern portion of the WSA is contiguous to the designated wilderness in Guadalupe Mountains National Park. An area of 13,236 acres with the highest quality wilderness values, would retain its existing natural appearance, outstanding opportunities for solitude, hiking, backpacking, nontechnical rockclimbing, photography, and sightseeing.

On the 18,370 acres in the northern portion of the WSA recommended nonsuitable, wilderness values, especially naturalness and opportunities for solitude, would be lost as a result of ongoing activities. New rangeland developments and 4 miles of new vehicle access routes would be constructed. Vehicle use would continue on existing ways and roads.

Conclusion. Under the Amended Boundary Alternative, wilderness values in the southern part of the Brokeoff Mountains WSA would be preserved. Wilderness values in the northern portion of the WSA would be degraded and eventually lost as a result of additional rangeland developments and continued vehicle access.

2. Impacts on Livestock Grazing Use Levels

The WSA presently supports approximately 9 head per section per year (5,411 AUMs). Under BLM's Wilderness Management Policy, there

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shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 2 storage tanks and one drinking trough. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Restriction of vehicular use, less than 100 vehicles per year, inside the designated wilderness area could reduce vandalism of rangeland developments and other problems resulting from vehicle-dependent access.

Some of the rangeland developments identified in the White Sands RMP could be installed if it were determined through site-specific analysis to be necessary for the purpose of rangeland or wilderness protection. Road construction and motorized access would not be authorized.

Conclusion. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

C. No Wilderness (Proposed Action)

Under this alternative, the entire 31,606 acres of public land within the Brokeoff Mountains WSA would be recommended nonsuitable for wilderness designation. The area would be managed according to the White Sands RMP (BLM 1986). This plan prescribes livestock grazing as the primary use of the area and identifies 4 pipelines with troughs, approximately 2¹/₂ miles of pasture fence, and 1 dirt tank to be built within the WSA. In addition, the area would once again be open to oil and gas leasing. Oil and gas exploration is expected to be minimal in the short-term, but could be significant in the long-term due to the WSA's proximity to a known oil and gas producing area.

In the 31,606 acres not designated as wilderness, unavoidable adverse effects of the proposed action will result from future surface disturbance activities. Cumulative short-term consumptive uses of this land will lead to long-term degradation of wilderness values. Nondesignation of 31,606 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

Under this alternative, the existing wilderness values in the Brokeoff Mountains WSA would be maintained in the short-term but would diminish in quality by 20-30 percent over the long-term. Livestock operators in the area have proposed additional rangeland developments such as pipelines and water troughs in the WSA. The new rangeland developments and up to 4 miles of new vehicle access routes would degrade naturalness and opportunities for solitude.

Conclusion. In the long-term, wilderness values in the WSA would be degraded by 20-30 percent as a result of additional rangeland developments and continued vehicle access.

2. Impacts on Livestock Grazing Use Levels

Current levels of authorized grazing use, approximately 9 head per section per year (5,411 AUMs) would continue. New rangeland developments including 4 pipelines with troughs, approximately 2¹/₂ miles of pasture fence, and 1 dirt tank could be built to facilitate livestock grazing management. Existing projects would be maintained on an as needed bases.

Conclusion. Under the No Wilderness Alternative, there would be no impacts on livestock grazing use levels.

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VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Public comment periods were conducted during the initial and intensive wilderness inventories in 1979 and 1980. Several comments were received in opposition to WSA status for the Brokeoff Mountains. General reasons for opposing WSA status included oil and gas exploration activity, minerals potential, and current livestock use. One comment stated that wilderness designation would rule out States' rights on State sections. These issues were not addressed during the inventory process since a WSA decision could only be based on the presence or lack of wilderness characteristics. The comments were retained and used during the preparation of this document.

During the public comment period on the Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District (BLM 1983), a total of 121 inputs were received on the Brokeoff Mountains WSA.

Of the 116 inputs favoring wilderness designation, 97 were considered to be form letters. Although the form letters were not identical, it was obvious that the letters consisted of nearly identical sentences and paragraphs that had been arranged in a different order.

Comments regarding the Brokeoff Mountains wilderness values were generally broad statements such as "wilderness characteristics are unquestioned and a variety of wild animals utilize the many different habitat types" and "offers outstanding opportunities for solitude and primitive recreation."

Numerous comments supported wilderness designation because the WSA is next to the Guadalupe Mountains National Park or because the National Park Service (NPS) supports wilderness designation.

Comments on the oil and gas conflicts in the area by those favoring wilderness designation stated that oil and gas potential was theoretical, not actual, or that oil and gas development could occur elsewhere.

The NPS comments on the Brokeoff Mountains WSA provided both specific resource comments and disagreement with BLM's recommended action. The majority of the disagreements were based on the potential impacts of the recommended action to the National Park. The NPS specifically discussed the impacts of oil and gas development on the aesthetic qualities of the National Park, the increase of interaction between domestic animals with the Park ecology, and the desire to enhance the protection of the National Park from the impact of oil and gas development.

Comments opposing wilderness designation for the WSA discussed the area's oil and gas potential or the lack of wilderness potential for the area.

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commentators supported Alternative W, a 1.3 million acre wilderness proposal advocated by the New Mexico Wilderness Coalition, which recommended wilderness designation for the entire WSA, plus additional surrounding area. A total of 125 commentators specifically addressed the Brokeoff Mountains WSA. All but one of these commentators favored wilderness designation. The one exception expressed no preference. Two commentators felt that too much weight had been placed on other resources in the analysis. This comment was taken into account in revising the analysis of impacts of designating or not designating the area as wilderness.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Statement (BLM 1986), specific comments were directed to the Brokeoff Mountains WSA by 308 commentators. Comments on this WAR which require a response are discussed and responded to in the following section.

Public Review of the Revised Draft EIS

No. 0007

Name(s): Ralph Walker

Comment: "The EIS clearly states that the recommended plan for the Broke Offs will be a 50% reduction in livestock grazing."

Response: Under the BLM Proposed Action, current livestock grazing levels of approximately 9 head per section per year would continue. BLM's Wilderness Management Policy states that there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. Any adjustments in the numbers of livestock permitted to graze in wilderness areas will be made only as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, rangeland condition, and the protection of the rangeland resource from deterioration. It is anticipated that the numbers of livestock permitted to graze in wilderness would remain at the approximate levels existing at the time an area enters the wilderness system.

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BROKEOFF MOUNTAINS

No. 0011

Name(s): Debbie Hughes, Hughes Ranch

Comment: "The proposed 50% reduction in grazing permits as proposed in alternative 3 for the area is unnecessary. All this will do is cripple ranching efforts."

Response: Under the BLM Proposed Action, current livestock grazing levels of approximately 9 head per section per year would continue. BLM's Wilderness Management Policy states that there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. Any adjustments in the numbers of livestock permitted to graze in wilderness areas will be made only as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, rangeland condition, and the protection of the rangeland resource from deterioration. It is anticipated that the numbers of livestock permitted to graze in wilderness would remain at the approximate levels existing at the time an area enters the wilderness system.

* * * * *

No. 0013

Name(s): Melvin W. Clifton

Comment: "It (wilderness designation) would restrict hunting privileges, limit habitat improvements, limit access and not enable the public to harvest firewood from the area."

Response: BLM's Wilderness Management Policy permits hunting and fishing in wilderness areas consistent with State and Federal wildlife laws. Habitat improvement projects are permitted in wilderness areas if those wildlife projects are compatible with maintaining the wilderness resource and general wilderness character. Access by motorized or mechanized vehicles would be restricted to preserve the wilderness resource and the visitor's wilderness experience and opportunities. Access by foot or horseback would not be restricted.

Firewood could not be harvested for nonwilderness purposes (except under specified or emergency conditions), but use of dead and down material as fuelwood for campfires would be permitted.

* * * * *

No. 0066

Name(s): Ray Cox

Comment: "Wilderness designation in the Brokeoff Mountains would adversely affect the grazing activities because it would prevent the placing of water storage tanks, pipelines and drinking tubs. It would also probably stop us from using pickup trucks to haul pumps, repair parts, salt and minerals. It would also affect our ability to place and or maintain fences to control the grazing in the area. If some of the wilderness proponents have their way, we'll have to remove existing water tanks."

Response: Wilderness designation in the Brokeoff Mountains would not necessarily prevent the placement or maintenance of rangeland improvements or the use of pick-up trucks. BLM's Wilderness Management Policy states that wilderness designation should not prevent the maintenance of existing fences or improvements which are consistent with allotment management plans or which are necessary for the protection of the range. Where practical alternatives do not exist, maintenance or other activities may be accomplished through the occasional use of motorized equipment.

* * * * *

No. 0067

Name(s): Arland Cox

Comment: "This (Brokeoff Mountains) is rough country and all of the permittees have been injured at one time or another by horses or mules falling. If the area is designated wilderness and we are seriously injured, the rescue people couldn't get in to help us."

Response: Wilderness designation would not prevent rescuers from getting into an area to help seriously injured permittees and their employees. BLM's Wilderness Management Policy states that motorized equipment and mechanical transport use may be allowed when an emergency condition exists which involves the health and safety of visitors.

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BROKEOFF MOUNTAINS

No. 0100-1

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The Coalition believes the road between the East Brokeoffs unit and the WSA does not completely separate the two areas. This road should have been cherry-stemmed and the East Brokeoffs unit included as part of the WSA. Considered as part of the WSA rather than as a separate unit, these roadless lands are deserving of wilderness status."

Response: Although the road between the East Brokeoffs unit and the WSA does not completely separate the two areas, the East Brokeoff unit was not recommended for wilderness study. During the intensive inventory, BLM judged that naturalness in the northern part of the unit was cumulatively and negatively impacted. The entire East Brokeoff unit was dropped from further study by State Director decision in the New Mexico Wilderness Study Area Decisions (November 1980). There were no protests or appeals of this decision.

No. 0100-2

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "4. Lands Along the Boundary with Guadalupe Mountains National Park (1,620). An important special feature of the Brokeoff Mountains is their location adjacent to Guadalupe Mountains National Park. There are additional BLM roadless lands adjacent to the Park, not in BLM's wilderness recommendation. Though the acreage involved is not large, these lands are qualitatively similar to lands included in BLM's recommendation and are not separated from those lands by any man-made feature. Their designation as wilderness would further strengthen the connection between the Brokeoffs and Guadalupe Mountains National Park."

Response: Public land in the Brokeoff Mountains contiguous to the designated wilderness in the Guadalupe Mountains National Park was included in the Brokeoff Mountains WSA. Public land in T. 26 S., R. 20 E., Sections 27, 28, 33, and 34 are separated from the National Park wilderness by a road. This road also forms the boundary between wilderness and nonwilderness areas within the park.

No. 0100-3

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "5. Lands West of the WSA (8,880 acres). Along the west side of the Brokeoff, there is a substantial roadless area that the BLM has ignored for wilderness consideration apparently because it is relatively flat. Most of this land was excluded from the WSA during the intensive inventory phase."

Response: As a result of public comment on the New Mexico Wilderness Study Area proposal for the Brokeoff Mountains (March 1980), the western boundary was moved slightly to the west. An additional area along the western boundary was not included since the area consisted primarily of creosote flats and did not have vegetative or topographic screening necessary to provide an outstanding opportunity for solitude. Likewise, it was judged that this area did not contribute to outstanding opportunities for primitive or unconfined recreation.

No. 0100-4

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "6. Alkali Lakes (7,460). A particularly significant lowland area west of the existing WSA is Alkali Lakes. The alkali-flat ecosystem present here is not currently represented in the National Wilderness Preservation System. Because topographic maps show a road dividing this area from the main roadless area, the BLM considered Alkali Lakes separately from the Brokeoffs during initial inventory and dismissed them from further wilderness review."

Response: During the initial inventory, BLM determined that the road separating the Alkali Lakes from the Brokeoff Mountains WSA did indeed meet the definition of a road as described in the BLM Wilderness Inventory Handbook (1978). As a result, the Alkali Lakes were considered a separate unit. Again during the initial inventory, BLM determined that the unit lacked outstanding opportunities for solitude or primitive and unconfined types of recreation. The unit was dropped from further study by the BLM New Mexico Wilderness Review Initial Inventory Decision (July 1979). There were no protests or appeals of this decision.

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BROKEOFF MOUNTAINS

No. 0277

Name(s): Kenneth Caspar

Comment: "If this area is designated wilderness the grazing will eventually be discontinued."

Response: Under the BLM Proposed Action, current livestock grazing levels of approximately 9 head per section per year would continue. BLM's Wilderness Management Policy states that there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. Any adjustments in the numbers of livestock permitted to graze in wilderness areas will be made only as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, rangeland condition, and the protection of the rangeland resource from deterioration. It is anticipated that the numbers of livestock permitted to graze in wilderness would remain at the approximate levels existing at the time an area enters the wilderness system.

* * * * *

No. 0286

Name(s): New Mexico Farm and Livestock Bureau

Comment: "Inventories taken on the Aden Lava Flow, West Potrillo, and Brokeoff Mountains WSAs were incorrect and incomplete in the DEIS/NMSWS... For example, natural waterholes which were fenced and dirt tanks on the Aden Lava Flow WSA were not inventoried by the BLM."

Response: The original inventories did overlook a number of rangeland developments in the WSAs. In 1985 and 1986, rangeland developments in many of the WSAs were rechecked and the inventories were updated. Additional projects found were added to the inventories and all projects were double checked as to the accuracy of their identified location. These changes can be found on Table 5 in the WARS contained in this Final EIS.

* * * * *

No. 0571

Name(s): Roland Magby

Comment: "The value of the grazing permits affected will be decreased resulting in a decrease in the value of the total ranching operation. Although this permit value is not recognized by some agencies, the marketplace, lending institutions and the Internal Revenue Service have attributed a value to the possession of a grazing permit since permits began. When these factors are considered, the proposed wilderness designation results in taking from these ranchers something of considerable value without due compensation."

Response: BLM does not agree that wilderness designation would significantly affect the value of grazing permits in an area. As stated in BLM's Wilderness Management Policy, livestock grazing can continue where established prior to designating the area as wilderness. The policy goes on to state that there shall be no reduction of grazing in wilderness areas simply because an area is designated as wilderness. Any adjustments in livestock numbers would be as a result of sound grazing management practices and land management planning. In addition, the maintenance of existing rangeland developments would be permissible. The construction of new improvements is permissible when such improvements are for the protection and more effective management of resources.

The primary difference between livestock grazing management within wilderness areas, versus outside wilderness areas is the restrictions on the use of motorized or mechanized equipment.

Therefore, since grazing use would continue within a wilderness area, market value of the permit would not be significantly affected by wilderness designation and would continue to be determined by trends in the marketplace.

* * * * *

No. 0573

Name(s): Dorothy Magby

Comment: "Wilderness designation under the BLM proposed alternative will result in severe cut in grazing on these areas from what is currently being permitted. This obviously will have a severe economic impact on the permittees affected and will cause undue hardships for them."

BROKEOFF MOUNTAINS

No. 0573 (concluded)

Response: Under the BLM Proposed Action, current livestock grazing levels of approximately 9 head per section per year would continue. BLM's Wilderness Management Policy states that there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. Any adjustments in the numbers of livestock permitted to graze in wilderness areas will be made only as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, rangeland condition, and the protection of the rangeland resource from deterioration. It is anticipated that the numbers of livestock permitted to graze in wilderness would remain at the approximate levels existing at the time an area enters the wilderness system.

APPENDIX 43

Culp Canyon WSA (NM-030-152)

I. GENERAL DESCRIPTION

A. Location

The Culp Canyon Wilderness Study Area (WSA) is located in south-central Otero County, approximately 22 air miles south-southeast of Alamogordo, New Mexico. The WSA is situated at the north end of the McGregor Range, an area used for military exercise by the U.S. Army at Fort Bliss, Texas. The WSA is bordered on the north by the Lincoln National Forest.

The U.S. Geological Survey (USGS) topographic maps covering the WSA are the Escondido Canyon, New Mexico quadrangle at the 15-minute scale and the Culp Canyon, New Mexico quadrangle at the 7.5-minute scale.

B. Climate and Topography

Culp Canyon WSA is characterized by an arid, continental climate with mild winters and pleasant to hot summers. Summer daytime temperatures may exceed 100°F. Minimum winter temperatures of 20°-25°F are common.

Annual precipitation varies from about 11 inches on the west to 16 inches in the northeast corner of the WSA. Most of the precipitation occurs in the late summer.

Winds are predominantly from the west, southwest, or south with average velocities of 10 mph. Strong winds of 30 mph or more are common in the spring when dust storms are frequent.

The WSA consists of alluvial fans and foothills of the Sacramento Mountains with an overall downslope from east to west. The area is characterized by gently rolling to steep hills and mountain slopes dissected by numerous canyons and arroyos. An escarpment approximately 300 to 500 feet high cuts through the southeast corner of the WSA. Culp Canyon, a major drainage of the area, runs along the south and southwest edges of the WSA. Elevation ranges from 4,500 feet on the west side to over 6,500 feet near the eastern boundary of the WSA.

C. Land Status

The Culp Canyon WSA contains 10,937 acres of withdrawn public land. There are no State or private lands within the WSA boundary. (See Map 43-1 for land status within the WSA boundary.) The WSA is within the McGregor Range, a bombing and gunnery range used by the U.S. Army, Fort

CULP CANYON WSA (NM-030-152)

Proposed Action-No Wilderness Alternative

Legend

— WSA BOUNDARY

Land Status

WITHDRAWN BLM LAND/McGREGOR RANGE

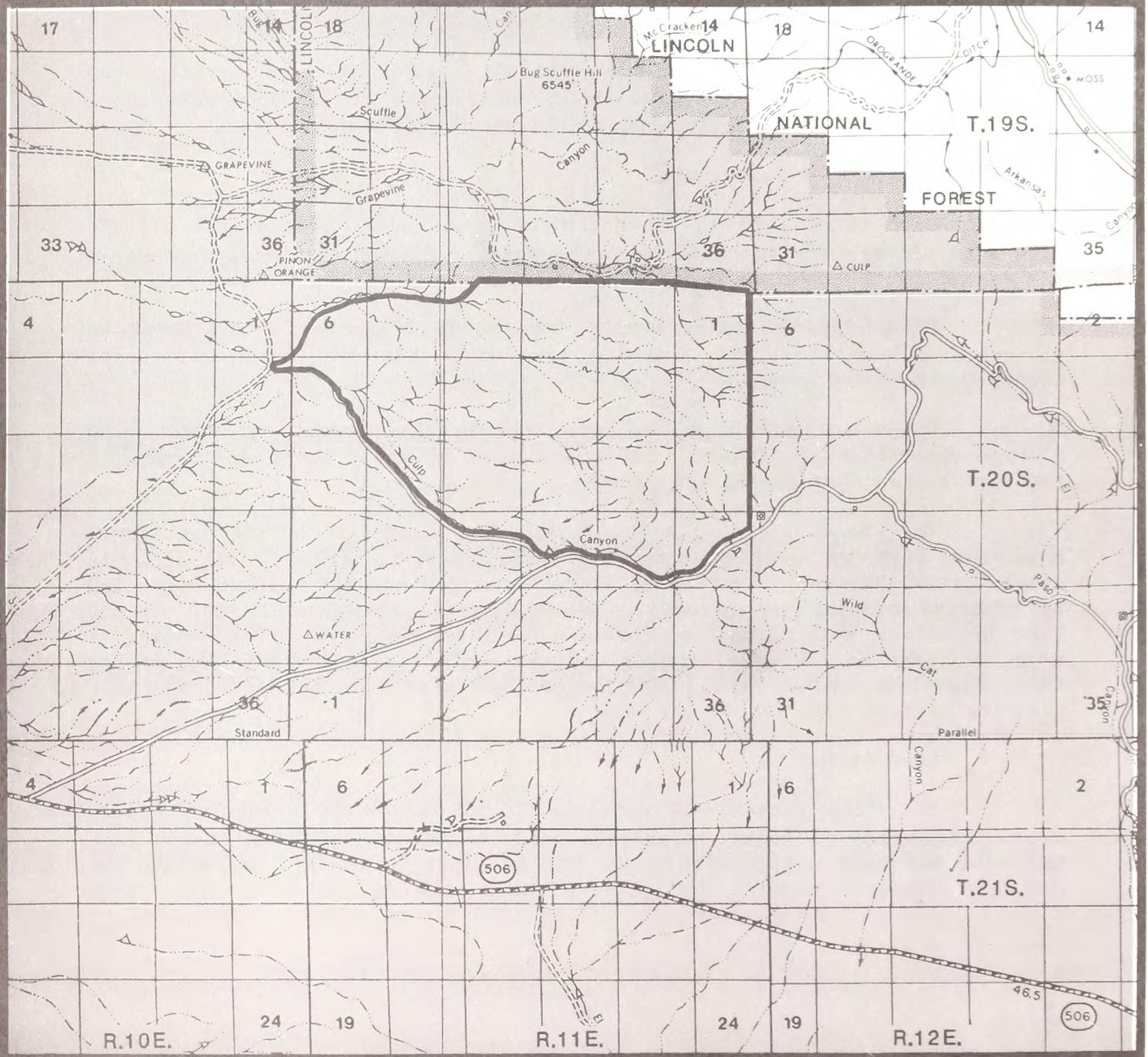
PRIVATE

STATE

MAP 43-1
LAND STATUS

Scale: 1/2 Inch=1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.



Bliss, Texas. The McGregor Range was originally withdrawn in 1957. The withdrawal expired in 1979. On November 6, 1986, Congressional legislation was enacted to withdraw public land within McGregor Range for military purposes (Public Law 99-606). The public land was withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and geothermal laws). According to the legislation, any public land managed pursuant to Section 603 of the Federal Land Policy and Management Act of 1976 (43 USC 1782) shall continue to be managed under that section until Congress determines otherwise. The legislation has no effect on the WSA.

D. Access

Access to Culp Canyon WSA is via a maintained road branching northeast off State Highway 506. Physical access to the west end and north side of the WSA is available from roads off U.S. Highway 54.

Access to the entire McGregor Range, including the WSA is restricted at times because of military use of the area. Persons wishing to enter the area would have to check with Fort Bliss to make certain that the Range is open and safe to enter.

E. Description of the Issues, Proposed Action, and Alternatives

The summary of scoping lists alternatives and issues considered for analysis, as well as other alternatives and issues considered but not selected for detailed analysis in this WAR. These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils, and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A detailed description of those actions associated with the proposal and alternatives is provided in Table 1. The proposed action for Culp Canyon WSA is the No Wilderness Alternative. This recommendation is based on the marginal quality of wilderness values and the potential conflicts associated with military use of the area.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reasons for Not Conducting a Detailed Analysis
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Expanding the WSA to include adjacent Forest Service land	This alternative was raised by environmental groups during the intensive inventory period. The New Mexico Wilderness Bill of 1982 removed the adjacent Forest Service land from further consideration as wilderness, therefore this alternative was not considered.
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Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
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Impacts on the following Threatened or Endangered Species: <u>Epithelantha micromeris</u> , <u>Escobaria villardii</u> , <u>Mammillaria wrightii</u> , <u>Echinocereus fendleri</u> var. <u>Kuenzleri</u>	The U.S. Fish and Wildlife Service has concurred with BLM's findings of no effect on species Federally-listed or proposed for listing as threatened or endangered. Threatened and Endangered species are recognized as a special feature of the wilderness and are addressed as part of the discussion of wilderness.
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Impacts on Military Operations	This is not an environmental issue but is discussed in Chapter IV, Manageability.
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Impacts on Gravel Development	The development of gravel is not expected because this resource is widespread and long hauling distance to potential market areas would make Culp Canyon an unlikely site.
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Impacts on Cultural Resources	Cultural resources were not selected for detailed analysis because of the low potential for surface disturbing activities to occur.
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Impacts on Oil and Gas Resources	Although the Culp Canyon WSA has moderate potential for oil and gas, the recent withdrawal legislation (November 6, 1986) closed McGregor Range to oil and gas leasing. However, within 5 years of enactment of the Act, the legislation directs the Secretary of the Interior with concurrence of the Secretary of the Army to determine which public land is suitable to be open. Impacts to oil and gas development will be addressed at that time.
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Alternatives Selected for Detailed Analysis	Reasons
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All Wilderness	10,937 acres were identified during the inventory as having wilderness values.
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No Wilderness (Proposed Action)	The No Action Alternative required by NEPA.
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Environmental Issues Selected for Detailed Analysis

Three issues of concern identified for the Culp Canyon WSA include impacts on wilderness values, and impacts on livestock grazing use levels.

Concerns regarding livestock grazing use levels include the inconvenience to livestock operators from vehicle restrictions under wilderness designation, as well as an expected increase in vandalism and harassment to livestock if it is not designated wilderness.

TABLE 1
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVE

All Wilderness	No Wilderness (Proposed Action)
°MANAGE TO MAINTAIN OR ENHANCE EXISTING WILDERNESS VALUES ON 10,937 ACRES. THE FOLLOWING ACTIONS WOULD BE TAKEN:	°MANAGE 10,937 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:
-10,937 acres with moderate potential for oil and gas would be closed to exploration and development.	-10,937 acres would be closed to mineral leasing, mining claim location, and mineral exploration as a result of the Military Withdrawal Act of 1986.
-Current livestock grazing levels of approximately 7 head per section for 9 months (1,071 AUMs) would continue	-Current livestock grazing levels of 7 head per section for 9 months (1,071 AUMs) would continue.
-Four miles of existing vehicle ways would be closed to use. This vehicle use occurs primarily during hunting season.	-Four miles of existing vehicle ways would be open to use subject to military closures. Public vehicle use would occur primarily during the hunting season and is estimated to be less than 100 vehicles per year.
-Require permits for vehicle access for replacement or maintenance of 4 1/2 miles of fence, 3 storage tanks, and 2 dirt tanks. No more than one trip per year is anticipated for vehicle access. Casual vehicle use for inspections and minor repairs would be precluded.	-Vehicle use for inspection of dirt tanks, storage tanks, and fences would continue on an as needed basis subject to military closures.
-Area would not be used for military maneuvers, training exercises, and weapons testing.	-Area would continue to be used for military maneuvers, training exercises, and weapons testing without consideration for protecting wilderness values. Exercises would include use of ground troops and aircraft. Up to 3 miles of new road would be constructed.
-Access would be granted to recover missile debris, drones, and targets which may impact the area. Vehicles used and routes of access would be specified to protect wilderness values.	-Access would be granted to recover missile debris, drones, and targets which may impact the area.
-Public access would continue to be restricted because of military use of the area.	-Public access would continue to be restricted because of military use of the area.
-Hunter access during the annual McGregor deer hunts would be allowed. Use of motorized vehicles would be prohibited.	-Hunter access during the annual McGregor deer hunt would continue. Use of motorized vehicles would be allowed.

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

Alternatives/ Acreage	Major Environmental Issues Impacts on Wilderness Values
All Wilderness (10,937 acres)	The Culp Canyon WSA's natural character, opportunities for solitude, hiking, and hunting, and cultural sites would be maintained.
No Wilderness (10,937 acres) (Proposed Action)	Continuation of rangeland activities and associated low levels of ORV use would have no significant impact on wilderness values. In the long-term, wilderness values, particularly naturalness and opportunities for solitude would be lost as a result of military exercises and weapons testing.

II. EXISTING RESOURCES AND ENVIRONMENT

A. Geology

The Culp Canyon WSA is situated in the southern Sacramento Mountains along the eastern edge of the Tularosa Basin. The overall structure of the Sacramento Mountains is that of a tilted fault block which dips to the east. The Sacramento Mountains form the local eastern border of the Basin and Range physiographic province. Rocks within the Culp Canyon WSA consist of Pennsylvanian and Permian limestones, shales, and sandstones. There are several north-trending normal faults within the WSA.

B. Water

The Culp Canyon WSA is situated on the eastern edge of the Tularosa Basin, a noncontributing closed basin. Drainage is towards the west into the basin. The groundwater quality is good in the recharge area of the basin, the alluvial fan, and foothills, but deteriorates to very poor and saline beneath the basin.

The major drainage of the area is Culp Canyon which runs along the south and southwestern edge of the WSA. This drainage runs only during the periods of heavy rainfall which are usually associated with summer thundershowers. A number of smaller tributary canyons drain into Culp Canyon.

C. Soils

Three soil associations are present in the Culp Canyon WSA (U.S. Department of Agriculture 1981).

Soil Association	Acres	Percent	Slope
Pintura-Dona Ana Complex	250	2%	Loamy fine sand to fine sand loam 0-5
Nickel-Tencee Association	1,376	13%	Gravelly fine sandy loam 10-25
Rock Outcrop-Lozier Complex	<u>9,311</u>	85%	Very gravelly loam 20-65
TOTAL	10,937		

D. Vegetation

1. General

Three range sites are present in the Culp Canyon WSA.

CULP CANYON

Range Site	Acres	Percent of WSA	Major Vegetation
Limestone Hills	9,311	85%	Apacheplume, Blue grama, Goldeneye, Curly muhly, Mariola, Sideoats grama
Gravelly	1,376	13%	Creosote, Burrograss, Tobosa, Pepperweed
Deep Sand	250	2%	Honey mesquite, Snakeweed, Mesa dropseed, Desert bailey

2. Rare Plant Species

There is one Federal endangered plant species with very slight possibility of occurrence within the WSA. The following rare plants may occur in Culp Canyon.

Species: Epithelantha micromeris - Common button cactus.

Status: State endangered.

Habitat: Rocky hills and ridges in the desert and in grassland at 3,400-5,000 feet.

Species: Escobaria villardii -Villard's pincushion cactus.

Status: State endangered.

Habitat: On limestone, 4,500-6,000 feet.

Species: Mammillaria wrightii - Wright's pincushion cactus.

Status: State endangered.

Habitat: Gravelly hills or sandy hills or plains, desert grasslands to pinyon-juniper; 3,700-7,000 feet.

Species: Echinocereus fendler var. Kuenzleri - Kuenzler Hedgehog Cactus.

Status: Federal endangered.

Habitat: Limestone ledges, rock cracks, and gentle slopes; 6,000 feet.

E. Wildlife

1. General

The results of fieldwork indicate that the Co-use area provides habitat for a well-balanced assemblage of wildlife communities. This balance has been enhanced by low to moderate grazing pressure and restrictions on human access (U.S. Department of the Interior, BLM 1980).

The mule deer population is estimated at 25-33 animals per section (BLM and New Mexico Department of Game and Fish n.d.). Based on census data and long-term studies, the deer herd appears to be healthy and stable (Eichert 1978; VonFinger 1979). Migration from higher to lower elevations appears to occur in winter.

Small game common to the area are scaled quail, Gambel's quail, mourning dove, and a few white-winged doves.

2. Threatened or Endangered Fauna Species

The following endangered species are known to occur on McGregor Range, however, there are no confirmed reports of them being found in Culp Canyon WSA.

Species: Haliaeetus leucocephalus - Bald Eagle

Status: Federal endangered

Habitat: Open water, riparian woodlands, and open plains to a lesser extent.

Species: Vireo vicinior - Gray Vireo

Status: State of New Mexico Group II

Habitat: Evergreen shrubland-oak woodland, pinyon-juniper, and lowland riparian woodlands.

Species: Elaphe subocularis - Trans-Pecos Ratsnake

Status: State of New Mexico Group II

Habitat: Alluvial gravels and sands in shrub-grasslands.

F. Visual

The Culp Canyon WSA is located in the southwestern portion of the Sacramento Mountains. The Lincoln National Forest borders the northern boundary of the Culp Canyon WSA. This area offers outstanding vistas from atop the escarpment. The entire Culp Canyon WSA (10,937 acres) is within a Visual Resource Management (VRM) Class IV area.

G. Cultural

Culp Canyon is in a high site density area for archaeological/historical resources. The area contains cultural remains which span a time period of at least 12,000 years and which include structures or artifacts from the Paleo-Indian, Archaic, Jornada Mogollon, Apache, and Anglo-American periods. There are 22 known cultural resource sites in the WSA and consist primarily of lithic scatters, hearths, and middens.

There are approximately 10 prehistoric cultural sites in this area that may be eligible for National Register status.

H. Air

Because of lack of significant air pollution sources, the quality of the air space above the range which includes the Culp Canyon area, is good (DOA 1976). However, Federal and State air quality standards are exceeded for total suspended particulates (TSP), ozone, and hydrocarbons. The ozone and hydrocarbon problems are attributed to urban pollution in El Paso, Juarez, and Las Cruces (DOA 1976). Of a total measurable TSP emission of 68,391 tons per year, 90 percent comes from wind erosion of rangeland. The remainder is road dust and smoke from rangeland fires. The estimated annual average TSP concentration on the area is 100 micrograms per cubic meter, which exceeds Federal standards of 75 and State standards of 60 micrograms per cubic meter. The high average reflects the influence of dust storms standards are generally met during periods when wind erosion effects are absent.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The mineral resources potential of the Culp Canyon WSA is shown on Map 43-2. The November 6, 1986 withdrawal legislation withdrew public land in McGregor Range from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and geothermal laws). However, within 5 years after enactment of the Act, the Secretary of Interior, with concurrence from the Secretary of the Army, is directed to determine which public land would be suitable to be open.

1. Energy Minerals (Oil and Gas)

As of April 15, 1986, there were no mineral leases in the WSA.

The WSA contains Pennsylvanian and Permian limestone that are potential petroleum sources and reservoir rocks. The WSA is also situated between the Tularosa Basin and the Otero platform which are both areas of moderate oil and gas potential. For these reasons, the Culp Canyon WSA is considered to have low to moderate potential for oil and gas resources.

2. Nonenergy Minerals

As of April 15, 1986, there were no mining claims recorded with the BLM within the WSA. Under the original McGregor Range withdrawal, the range was closed to mining claim location. This closure is still in force under the November 6, 1986 withdrawal legislation.

a. Gypsum

The Permian Yeso formation is known to contain gypsum beds of varying purity. The Yeso formation crops out in the southeastern portion of the WSA. However, the availability of high quality gypsum from existing mines in the western United States and the occurrence of other, more accessible deposits in southern New Mexico, would probably preclude the development of gypsum resources in the WSA. Consequently, the potential for gypsum is considered low.

b. Gravel

The bottom of Culp Canyon contains considerable amounts of gravel. However, the long hauling distance to potential market areas would make Culp Canyon an unlikely choice as a site for development. The potential for development of the gravel resources is considered low.

CULP CANYON WSA (NM-030-152)

Proposed Action-No Wilderness Alternative

MAP 43-2 MINERAL RESOURCE POTENTIAL *

Legend

— WSA BOUNDARY

Land Status

■ WITHDRAWN BLM LAND/McGREGOR RANGE

□ PRIVATE

□ STATE

▨ Oil and Gas

Scale: 1/2 inch = 1 mile

Source: USDI, BLM, Las Cruces District, April, 1986.

*Areas of moderate (2) mineral potential are shown for lands within the WSA; the potential may extend outside the WSA boundary. Areas of low potential are not shown.

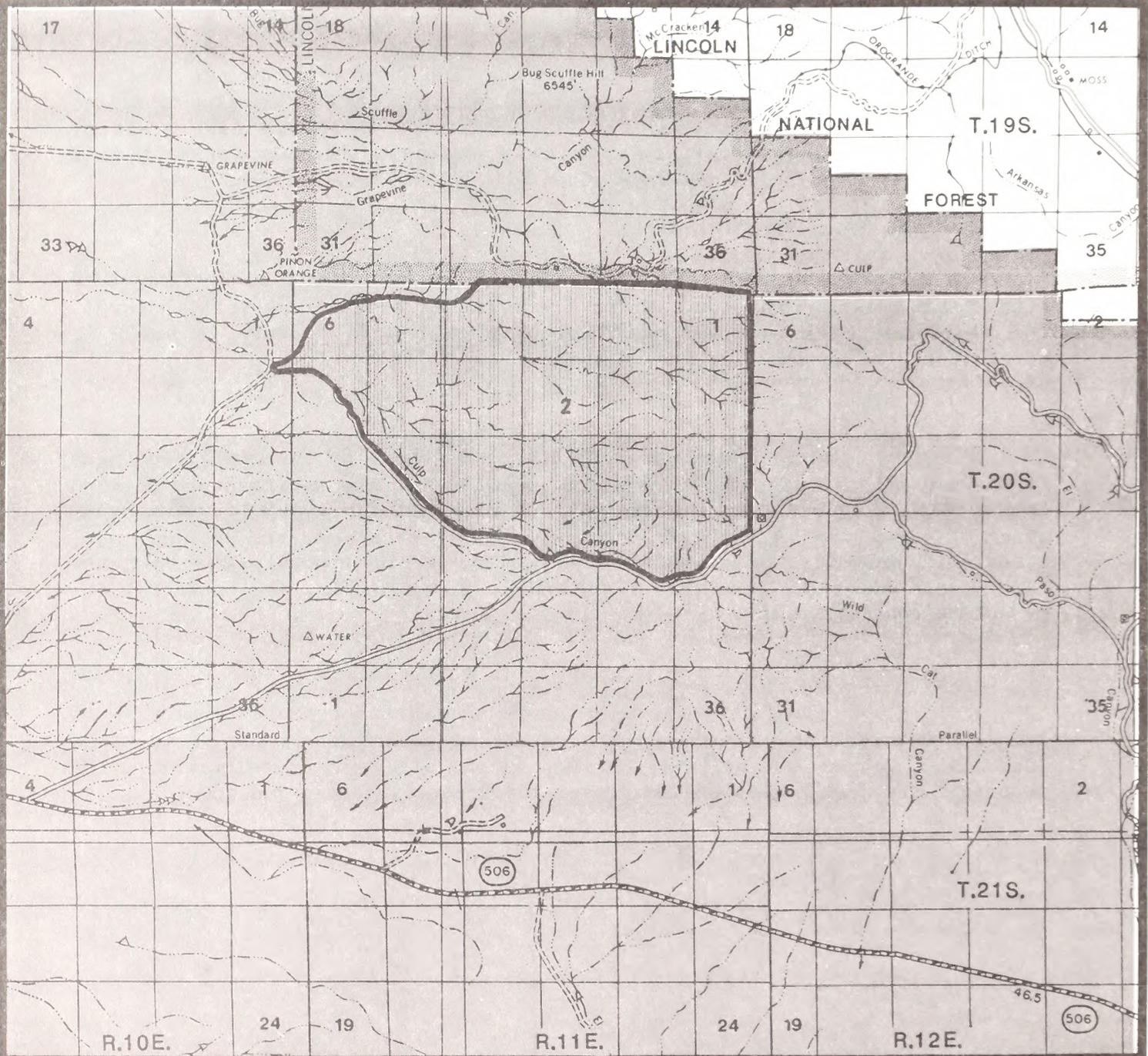


TABLE 3
MINERAL RESOURCES POTENTIAL OF THE CULP CANYON WSA

Commodity	Geologic Environment	Mineral Resources Potential	Approximate Acreage*
Energy Minerals			
Oil and Gas	Pennsylvanian and Permian limestones; proximity to Tularosa Basin and Otero Platform	Moderate	10,937
Nonenergy Minerals			
Gypsum	Permian Yeso Formation	Low	--
Gravel	Culp Canyon Drainage	Low	--

Note: *Acreage was not calculated for areas with low potential.

B. Livestock Grazing

1. Allotments

Culp Canyon WSA is located within Pasture 3 which is 1 of 14 grazing units on McGregor Range. Grazing was initiated in 1967. Pastures were defined by historical utilization. By 1970, BLM had developed the present management program, which allows approximately 9 months of grazing each year, usually from October to June. In general, a conservative approach has been followed for the range as a whole; overstocking has been avoided. The result is a grassland and shrubland environment with a grazing capacity equal to or greater than most comparable land elsewhere in New Mexico. Because grazing leases are awarded to high bidders, and because the parcels are relatively large, lessees are generally large operators who purchase cattle prior to the grazing season and send or sell them to feedlots when the season is over. A few lessees are operators who have ranches in the vicinity of McGregor; these ranchers usually move their cattle to private land during the off-season. Most pastures are used for cow-calf operation, those with rough terrain are usually designated for yearlong use.

TABLE 4
GRAZING UNITS WITHIN THE WSA

Unit Name and Number	Total Acres	Total AUMs	Acres in WSA	Approximate AUMs in WSA	Percent of Unit
Culp Pasture - 3	32,000	3,150	10,937	1,071	34%

2. Ranch Management

TABLE 5
EXISTING RANGELAND DEVELOPMENTS WITHIN THE WSA

Type of Development	Location
2 dirt tanks	T. 20 S., R. 11 E., Sec. 12 T. 20 S., R. 11 E., Sec. 22
3 storage tanks	T. 20 S., R. 11 E., Sec. 22 T. 20 S., R. 11 E., Sec. 23
interior fence	4 $\frac{1}{2}$ miles

The White Sands Resource Management Plan (BLM 1986) identifies the following proposed rangeland developments in Pasture 3 within the WSA: 6 miles of pipeline, 3 storage tanks, 7 drinking troughs, 2 wells, 2 dirt tanks, and 1 corral.

C. Recreation

With the exception of hunting, the WSA and surrounding range is closed for recreational use. In most years, the New Mexico Department of Game and Fish (NMDGF) has issued 800 deer licenses. In 1985, the number was increased to 1,000. Hunters are allowed on the range for up to three specific, consecutive weekends, usually in November.

When the range is open for big game hunting, the Department of Army (DOA) and NMDGF jointly control access. DOA personnel also enforce New Mexico State law related to upland game hunting with respect to licenses, seasons, and limits.

D. Other--Military

The WSA lies within the Army-controlled McGregor Range which is used as a bombing, gunnery, and missile testing range. The area is also used for military maneuvers and field exercises. The Department of the Army at Fort Bliss has indicated that the Culp Canyon area is continually used by the Fifth Special Forces Group in training exercises. Both ground troops and helicopters use the area. The area is also used in connection with testing of the Patriot Missile system. Missile debris, drones, and targets are often recovered from the area.

IV. WILDERNESS CRITERIA

A. Evaluation of Wilderness Values

1. Quality of Mandatory Wilderness Characteristics

a. Naturalness

The Culp Canyon WSA generally appears natural with the imprints of man being substantially unnoticeable. The developments in the WSA consist of 4 miles of two track ways, 3 storage tanks, 3 dirt tanks (one is an abandoned dirt tank), and 4 1/2 miles of fence.

Approximately 3 3/4 miles of two track ways loop into the northeast corner of the WSA. Another 1/4 mile of way extends into the WSA from the aqueduct and way which forms the northwest boundary. The 4 1/2 miles of fence runs roughly east and west through the north central portion of the WSA. A large dirt tank is located in the east-central portion of the WSA. This tank has been abandoned and is revegetating. While those developments have a local impact on naturalness, they are substantially unnoticeable in the WSA as a whole due to the topographic screening provided by the rugged terrain.

b. Solitude

The Culp Canyon WSA provides outstanding opportunities for solitude. These opportunities are primarily a result of the area's topography. The numerous hills, ridges, and drainages provide opportunities to escape the sights and sounds of others within the WSA. However, the solitude of the area is occasionally disrupted by military activities in and around the WSA including ground troop training exercises and low level helicopter flights.

c. Primitive and Unconfined Recreation

The Culp Canyon WSA offers outstanding opportunities for primitive and unconfined types of recreation including hiking, hunting, horseback riding, and limited backpacking trips. These opportunities are negatively impacted by military use of the area and controls on public access. Hikers in the WSA may be faced with some challenge and risk in trying to climb the escarpment in the southeast portion of the WSA. Hikers to the top of the escarpment would be rewarded with some outstanding vistas of the Tularosa Basin and the Sacramento Mountains.

Hunters have an excellent hunting opportunity during the annual special deer season for the north end of the McGregor Range. A high deer population occurs in this area, and the success ratio on this hunt is well above the ratio for the region. Hunters who are willing to hike have relative ease of access and movement throughout the WSA except for the escarpment in the southeast portion of the WSA.

2. Special Features

The Culp Canyon WSA contains special ecological and cultural features. Special ecological features include both vegetation and wildlife values. The area provides habitat for three State-listed endangered plant species. In addition, two State-listed animal species and one Federal endangered species may occur in the area.

Twenty-two cultural resource sites are known to exist in the area. These sites consist primarily of lithic scatters, hearths, and middens. Approximately 10 of these sites may be eligible for National Register status.

3. Multiple Resource Benefits

Designation of this area would provide a greater degree of long-term protection for cultural resource sites on the area. In addition, such designation would help to provide a greater degree of protection for the wildlife habitat in the area, which supports a large, high-quality deer herd.

4. Diversity

a. Ecosystems Present

The Bailey (1976)-Kuchler (1966) System classifies the Culp Canyon WSA as being in the Chihuahuan Desert Province with a potential natural vegetation of grama-tobosa shrubsteppe.

b. Distance From Population Centers

The Culp Canyon WSA is approximately 1 hour driving time from El Paso, Texas; 2 hours from Las Cruces, New Mexico; and 6 hours from Albuquerque, New Mexico.

B. Manageability

The WSA contains 10,937 acres of withdrawn public land that are within McGregor Range. The Range was originally withdrawn in 1957 as a bombing and gunnery range used by the U.S. Army, Fort Bliss, Texas. The withdrawal was later renewed and eventually expired in 1979. On November 6, 1986, Congressional legislation was enacted to withdraw public land within McGregor Range for military purposes (Public Law 99-606). The public land was withdrawn from all forms of appropriation under the public land laws (including the mining laws and the mineral leasing and geothermal laws). According to the legislation, any public land managed pursuant to Section 603 of the Federal Land Policy and Management Act of 1976 (43 USC 1782) shall continue to be managed under that section until Congress determines otherwise.

McGregor Range has been and continues to be used for a variety of military purposes including maneuvers involving ground troops, motorized vehicles, and aircraft. The Range is also used extensively for testing new weapons systems including missiles. The central portion of the Range is a

missile impact area. The eastern western and northern portions of the Range including the Culp Canyon WSA are secondary danger zones around the primary missile impact area.

According to Fort Bliss, the Culp Canyon area is continually used by the Fifth Special Forces Group for training exercises. The area is also used in connection with testing of the Patriot Missile System. Missile debris, drones, and targets are often recovered from the area.

Effective management of the Culp Canyon WSA as wilderness would be difficult because of conflicts with military use of the McGregor Range including the area immediately adjacent to the Culp Canyon WSA.

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. All Wilderness

Under this alternative, the entire 10,937 acres of public land within the Culp Canyon WSA would be recommended suitable for wilderness designation. (See Map 43-1 for WSA boundary.)

On any acreage designated as wilderness, the existing and potential uses (See Chapter III) would be managed under the BLM's Wilderness Management Policy (1981).

1. Impacts on Wilderness Values

Under the All Wilderness Alternative, the Culp Canyon WSA would be managed to retain its natural appearance, outstanding opportunities for solitude and opportunities for primitive and unconfined recreation.

Restricting surface-disturbing and mechanized activities associated with rangeland activities, and allowing only permitted use of ORVs by the lessee would minimize impacts to naturalness from these activities.

Conclusion. Under the All Wilderness Alternative, naturalness and opportunities for deer hunting would be maintained.

2. Impacts on Livestock Grazing Use Levels

The Culp Canyon WSA is in Pasture 3 of the McGregor Range livestock grazing area. Grazing use on the McGregor Range is auctioned annually to the highest bidder. Since a portion of Pasture 3 would be managed as wilderness and due to the perception that wilderness management hinders livestock grazing operations, it is anticipated that bids for grazing use in Pasture 3 would be somewhat lower in the short-term. In the long-term, wilderness designation would have no significant effect on grazing use bids.

The WSA presently supports approximately 7 head per section for 9 months (1,071 AUMs). Under BLM's Wilderness Management Policy, there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. The facilities which have been installed to support this level of livestock grazing use include 4½ miles of fence, 3 storage tanks, and 2 dirt tanks. Maintenance of the existing facilities is allowable under the BLM Wilderness Management Policy, with permits required when motorized vehicles or equipment are used. Minor repairs to the fences would have to be accomplished on horseback.

Conclusion. Bids on grazing use would be lower in the short-term, but would not be affected in the long-term. Restrictions on use of motor vehicles for inspection or repair of existing developments would create an inconvenience to the permittee, but no impacts on existing livestock grazing use levels would occur.

B. No Wilderness (Proposed Action)

If the WSA is not designated wilderness it would be managed in accordance with other applicable guidance provided by the White Sands Resource Management Plan (RMP) (BLM 1985). No special management was identified for the Culp Canyon WSA. Current low levels of grazing and related surface disturbance from new rangeland developments would continue. Military use of the area would continue and would likely dominate other uses.

In the 10,937 acres not designated as wilderness, unavoidable adverse effects of the proposed action will result from future surface disturbance activities. Cumulative short-term consumptive uses of this land will lead to long-term degradation of wilderness values. Nondesignation of 10,937 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

1. Impacts on Wilderness Values

Military use of the area would continue and would result in the loss of naturalness and solitude opportunities. Military maneuvers and training exercises involving ground troops, motorized vehicles, and low flying aircraft would diminish the area's naturalness and opportunities for solitude. It is expected that up to 3 miles of new road would be constructed. Use of the area in connection with weapons systems testing and missile firings would contribute to this loss.

Continuation of rangeland activities and associated low levels of ORV use would have minor impacts to wilderness values.

Conclusion. Continued military use of the area, particularly missile firings and recovery and ground troop training exercises would result in the loss of the area's natural values and opportunities for solitude in the long-term. Over the long-term, the continued low level use of motorized vehicles for rangeland activities would result in some degradation of naturalness.

2. Impacts on Livestock Grazing Use Levels

Grazing use would continue at the levels currently existing (approximately 7 head per section per 9 months or 1,071 AUMs). There would be no impacts on vehicular access for maintenance of developments or inspection and no impacts on bids for grazing use.

CULP CANYON

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

Personal letters, form letters, and petitions were received on the Culp Canyon WSA during the public comment periods on the New Mexico Wilderness Review Initial Inventory Decisions (BLM-1979) and the New Mexico Wilderness Study Area Proposals (BLM 1980).

One comment was received in opposition to wilderness status for Culp Canyon. The reasons for opposing WSA status were existing military uses. Sixteen personal letters were received endorsing WSA status for Culp Canyon. Supportive reasons included size, naturalness, outstanding opportunities for solitude and primitive forms of recreation and supplemental values. _

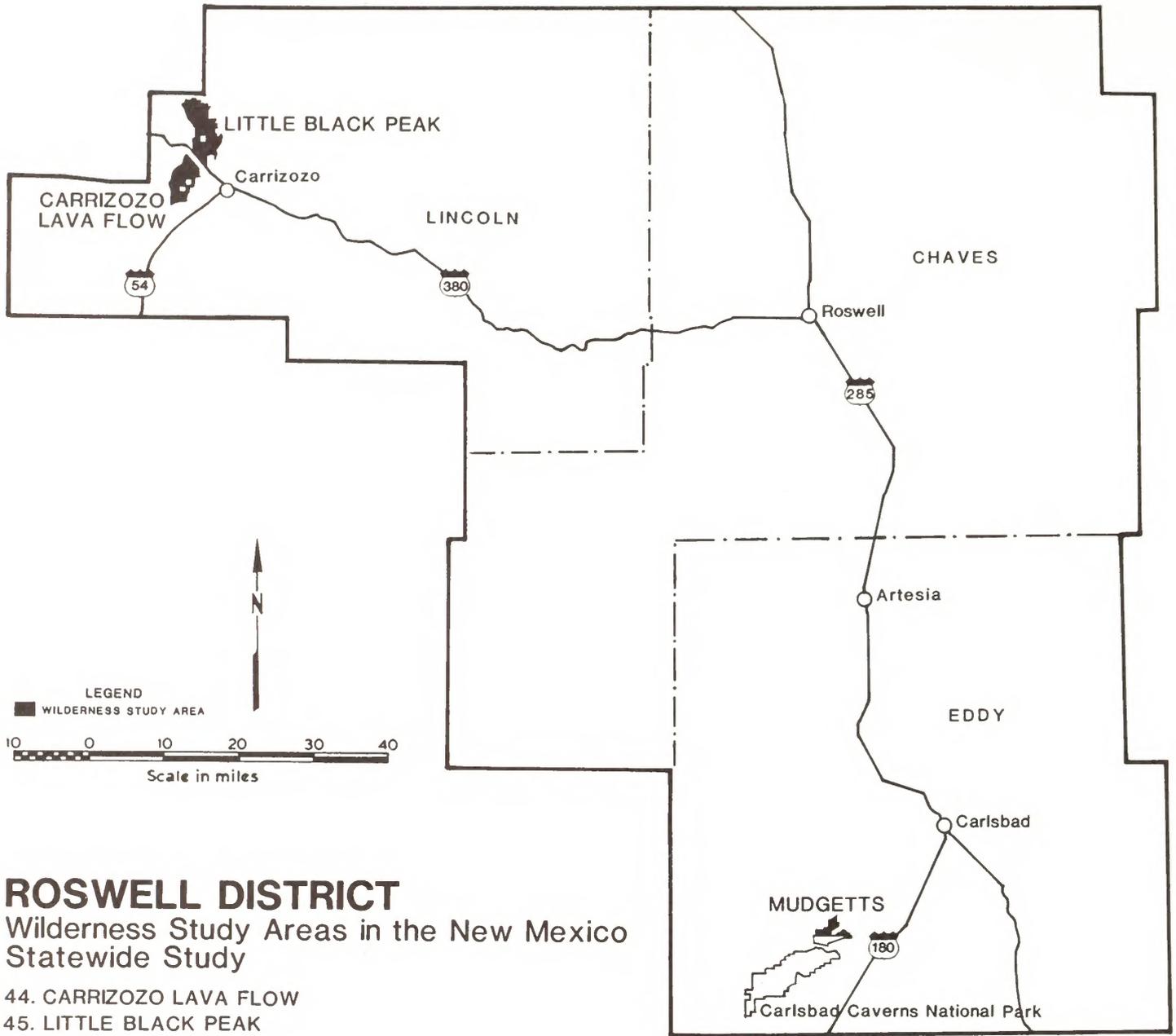
During scoping on the split-estate issue and the Culp Canyon WSA held in early 1986, 10 commentators specifically addressed the Culp Canyon WSA. Six of those favored wilderness designation, 2 opposed, and 2 had no opinion. Reasons given in support of wilderness designation for the area included statements that the area was not needed by the military, it is contiguous with the Sacramento Escarpment, and the area has wilderness qualities. A reason given in opposition to wilderness designation was that the area would remain in its present condition without wilderness designation.

In a letter submitted by the U.S. Army, Fort Bliss, it was stated that wilderness designation would have an adverse impact on Fort Bliss' mission because it will hinder training of the Fifth Special Forces Group which utilizes Culp Canyon constantly; the area is required to fire the Patriot Missile System from McGregor Range; recovery of missiles for testing purposes and drone/target recovery would be prohibited; and firefighting necessitated by fires resulting from gunnery practice and missile firings would be severely hampered or precluded.

During the public comment on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Culp Canyon WSA by 11 commentators. None of these comments required a written response.



ROSWELL DISTRICT



APPENDIX 44/45
LITTLE BLACK PEAK (LBP)/CARRIZOZO LAVA FLOW (CLF) WSAs
(NM-060-109) (NM-060-110A-1)

The two Wilderness Study Areas (WSAs) were previously identified during the wilderness inventory process as Little Black Peak WSA and Carrizozo Lava Flow WSA. Normally, a single report is prepared for each WSA - however, due to the similarities and common boundary of these two areas a combined report was prepared to minimize repetitive narratives. Any differences between the WSAs are described in subsequent sections of this report. If no distinction between areas is made in a narrative it can be assumed to apply to both WSAs.

I. GENERAL DESCRIPTION

A. Location

Little Black Peak and Carrizozo Lava Flow WSAs are located in the northeast arm of the Tularosa Basin near the western border of Lincoln County, New Mexico. These WSAs are administered by the Roswell Resource Area of Roswell District, Bureau of Land Management (BLM).

The WSAs consist of about the northern third of the Carrizozo "Malpais" (a Spanish word meaning "badlands") - an extensive lava flow on the valley floor west of Carrizozo, New Mexico. This lava flow originated from fissures near Little Black Peak cinder cone, a prominent geographic feature for which the northern WSA was named.



LITTLE BLACK PEAK, AN 85-FOOT HIGH CINDER CONE, MARKS THE SPOT WHERE THE CARRIZOZO MALPAIS ORIGINATED.

South of U.S. Highway 380, which forms a common boundary between the study areas, the Carrizozo Lava Flow WSA extends southwesterly for about 7 miles. The total length of the lava flow is about 44 miles of which 14 miles are under consideration for potential wilderness designation. The WSAs are located on three 15 minute series topographic maps published by the U.S. Geological Survey; Carrizozo, Chihuahua Ranch and Little Black Peak. WSA boundaries and their approximate location in southcentral New Mexico are shown on the map included at the end of this chapter.

B. Climate and Topography

Climate

The portions of the Carrizozo Malpais that are being evaluated for wilderness suitability are influenced by a considerable variation in precipitation. The northern end of the flow receives about 14 inches of precipitation contrasted with about 11 inches at the south end. The decline in precipitation is gradual within the 14 mile horizontal distance of both WSAs. This difference in precipitation between the northern and southern ends of the WSAs is believed to be due to a 700 foot reduction in elevation, and due to the "rain shadow" effect of the nearby Oscura Uplift which blocks the movement of moisture laden clouds to the southern part of the WSAs.

The arid climate of the WSAs is characterized by a hot summer season (90 to 95 degrees F. in July) during which most of the annual precipitation is received as rainfall. The average growing season is 190 days and prevailing winds are from the west or southwest. Winter temperatures are moderate with an average minimum temperature of 24° F. in January.

Topography

Elevations within the WSAs range from 5676 feet at Little Black Peak near the northern end of the lava flow to about 4000 feet at the southern boundary of the Carrizozo Lava Flow WSA. Topography and land form of the lava flow was strongly influenced by the southerly trending gradient of the valley floor. The flow appears to be relatively level when viewed from a distance. However, the surface of the flow is extremely rough and broken due to the presence of fractures, collapsed lava tubes and pressure ridges. There are no major water drainages within the lava flow since external water courses either disappear under or flow along the lava's edge for short distances. A low range of limestone hills are located on the western edge of the Carrizozo WSA.

C. Land Status

Based on acreage calculations derived from Bureau land status records, Little Black Peak WSA contains 15,072 acres under federal

surface and subsurface ownership. There is one non-federally owned inholding of 640 acres of New Mexico state trust land (surface and subsurface) located inside the WSA boundary.

Carrizozo Lava Flow WSA contains 10,240 acres, surface and subsurface federal ownership. There are no inholdings within this area since the WSA boundary conforms with property lines and manmade intrusions located on federal lands. The boundary lines and land status for both WSAs are depicted on Map I-1 at the end of this chapter.

D. Access

Both WSAs are physically and legally accessible by overland foot travel from U.S. 380 along their common boundary. Permanent legal access for vehicles is not available from other locations since there are no public roads that enter the WSA. However, temporary legal access from Lincoln County Road D002 is available across state land (Section 2, T. 6 S., R. 9 E.) at the northwest end of Little Black Peak WSA. This legal access is temporary in that it is available only during established hunting seasons for protected game animals, and access rights are restricted to licensed hunters. Physical access to the WSAs across adjoining non-federal lands may be available at the discretion of adjoining land owners.

E. Description of the Issues, Proposed Action, and Alternatives

The Summary of Scoping lists alternatives and issues considered for analysis as well as any other alternatives and issues considered but not selected for detailed analysis in this Wilderness Analysis Report (WAR). These alternatives and issues were raised by BLM and the public during wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

A detailed description of those actions associated with the proposal and alternatives is provided in Table I-1. The proposed action for Little Black Peak and Carrizozo Lava Flow WSAs is the Amended Boundary Alternative. Under this alternative 24,344 acres would be recommended suitable and 968 acres would be recommended nonsuitable for wilderness designation. This alternative would eliminate conflicts with maintenance or expansion of U. S. Highway 380. Also, this alternative excludes most of the manmade intrusions that affect naturalness in the WSAs and provides for a boundary that corresponds with physical features.

Table I-2 summarizes the significant environmental impacts by alternative for each of the major environmental issues.

LITTLE BLACK PEAK/CARRIZOZO LAVA FLOW SUMMARY OF SCOPING

Alternatives Raised and Set Aside	Reasons for Not Including this Alternative
Expanding the WSAs.	This was not considered further because it would require consideration of lands not nominated for wilderness study and lands not protected by interim management; however, there were cases considered where expanding the boundary would be desirable and this is discussed in the section on manageability which appears in Chapter IV.
Issues Raised and Set Aside	Reasons for Not Conducting a Detailed Analysis
Impacts on Cultural Sites	Cultural resources were not selected for detailed analysis because there are few sites and the general lack of developmental potential for the lava flow. A detailed site analysis would be required for any proposed surface disturbing activities.
Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	25,312 acres were identified during inventory as having wilderness values.
No Wilderness	The No Action Alternative is required by NEPA.
Amended Boundary (proposed action)	This is the proposed action since this alternative would minimize highway use conflicts, improve manageability by deleting areas with intrusions that are susceptible to future impacts, and protect wilderness values. This boundary configuration was identified by BLM during preplanning to: eliminate a potential conflict with maintenance or expansion of U. S. Highway 380; protect the highest quality wilderness values; and improve long-term manageability.

SUMMARY OF SCOPING (concluded)

<u>Environmental Issues Selected for Detailed Analysis</u>	<u>Reasons</u>
Impacts to highway expansion (Realty Actions)	The All Wilderness Alternative would preclude expansion of U.S. Highway 380 and could result in potential safety problems if traffic volume increases as projected on this route.
Impacts to wilderness values	Consideration of the wilderness values issue is required by the BLM Wilderness Study Policy. The major considerations for the decision-maker to recommend areas as suitable or unsuitable for wilderness designation is the quality and manageability of wilderness values. Both the All Wilderness and Amended Boundary alternatives would provide for significant protection of wilderness values on 25,312 acres and 24,344 acres, respectively. The No Wilderness Alternative would not provide for protection of wilderness values, however areas where surface disturbance could take place would be confined to the periphery of the lava flow.
Impacts on livestock grazing use levels	No significant impact was identified to livestock grazing; however, the environmental impact on livestock grazing use levels is addressed because of statewide interest.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	Amended Boundary (Proposed Action)	No Wilderness
<ul style="list-style-type: none"> o MANAGE TO MAINTAIN AND/OR ENHANCE EXISTING WILDERNESS VALUES ON 25,312 ACRES. THE FOLLOWING ACTIONS WOULD BE TAKEN: 	<ul style="list-style-type: none"> o MANAGE TO MAINTAIN AND ENHANCE EXISTING WILDERNESS VALUES ON 24,344 ACRES. THE FOLLOWING ACTIONS WOULD BE TAKEN: 	<ul style="list-style-type: none"> o MANAGE 25,312 ACRES WITHOUT WILDERNESS CONSTRAINTS. THE FOLLOWING ACTIONS WOULD BE TAKEN:
<ul style="list-style-type: none"> - Close 4 miles of vehicle ways, which currently receive low levels of use (less than 100 vehicles per year). 	<ul style="list-style-type: none"> - Close 0.2 miles of a vehicle way, which currently receives a very low level of use (less than 10 vehicles per year). 	<ul style="list-style-type: none"> - Low levels of vehicle use (less than 100 vehicles per year) would be allowed to continue on all vehicle ways.
<ul style="list-style-type: none"> - 25,312 acres of low potential would be closed to future oil and gas leasing and mineral entry. 	<ul style="list-style-type: none"> - 24,344 acres of low potential would be closed to future oil and gas leasing and mineral entry. 	<ul style="list-style-type: none"> - 25,312 acres of low potential would be open to future oil and gas leasing and mineral entry.
<ul style="list-style-type: none"> - Attempts would be made to acquire about 9,800 acres of state and private lands within and adjacent to the WSAs. 	<ul style="list-style-type: none"> - Attempts would be made to acquire about 9,800 acres of state and private lands within and adjacent to the WSAs. 	<ul style="list-style-type: none"> - No special emphasis would be made to acquire state and private lands.
<ul style="list-style-type: none"> - Current livestock grazing use levels of 19 cattle would continue. 	<ul style="list-style-type: none"> - Current livestock grazing use levels of 11 cattle would continue. 	<ul style="list-style-type: none"> - Current livestock grazing use levels of approximately 19 cattle would continue over the long-term.
<ul style="list-style-type: none"> - Expansion of U.S. Highway 380 would not be allowed. 	<ul style="list-style-type: none"> - Expansion of U.S. Highway 380 would be allowed. 	<ul style="list-style-type: none"> - Expansion of U.S. Highway 380 would be allowed.
	<ul style="list-style-type: none"> o MANAGE 968 ACRES WITHOUT WILDERNESS PROTECTION. THE FOLLOWING ACTIONS WOULD BE TAKEN: 	
	<ul style="list-style-type: none"> - Vehicle use would be allowed to continue on 3.8 miles of ways. 	
	<ul style="list-style-type: none"> - 968 acres of low potential would be open to future oil and gas leasing and mineral entry. 	
	<ul style="list-style-type: none"> - Current livestock grazing use levels would continue. 	

SUMMARY OF SIGNIFICANT IMPACTS
LITTLE BLACK PEAK/CARRIZOZO LAVA FLOW

Alternatives by WSAs/Acreage	MAJOR ENVIRONMENTAL ISSUES	
	Impacts to Highway Expansion	Impacts to Wilderness Values
All Wilderness (25,312 acres)	Expansion of U. S. Highway 380 would not be allowed and the safety of highway users could be affected if traffic volume increases.	Wilderness designation would protect the natural character of the lava flow, opportunities for solitude, hiking, spelunking as well as the opportunities to study melanistic species in a natural environment.
Amended Boundary (24,344 acres recommended suitable and 968 acres recommended nonsuitable.)	No significant impacts.	Same impacts as the All Wilderness Alternative, except that approximately 54 acres along U. S. Highway 380 would be disturbed to facilitate highway expansion.
No Wilderness (25,312 acres)	No significant impacts.	Wilderness values, primarily naturalness, would be lost or impaired in limited areas along the lava flow periphery and other areas where surface disturbance occurs (rugged terrain would prevent impacts in most of the WSAs).

MAP I-1

Little Black Peak (060-109) and Carrizozo Lava Flow (060-110A-1) WSA s

Legend

- WSA BOUNDARY
- - - AMENDED BOUNDARY/PROPOSED ACTION (darker areas excluded)

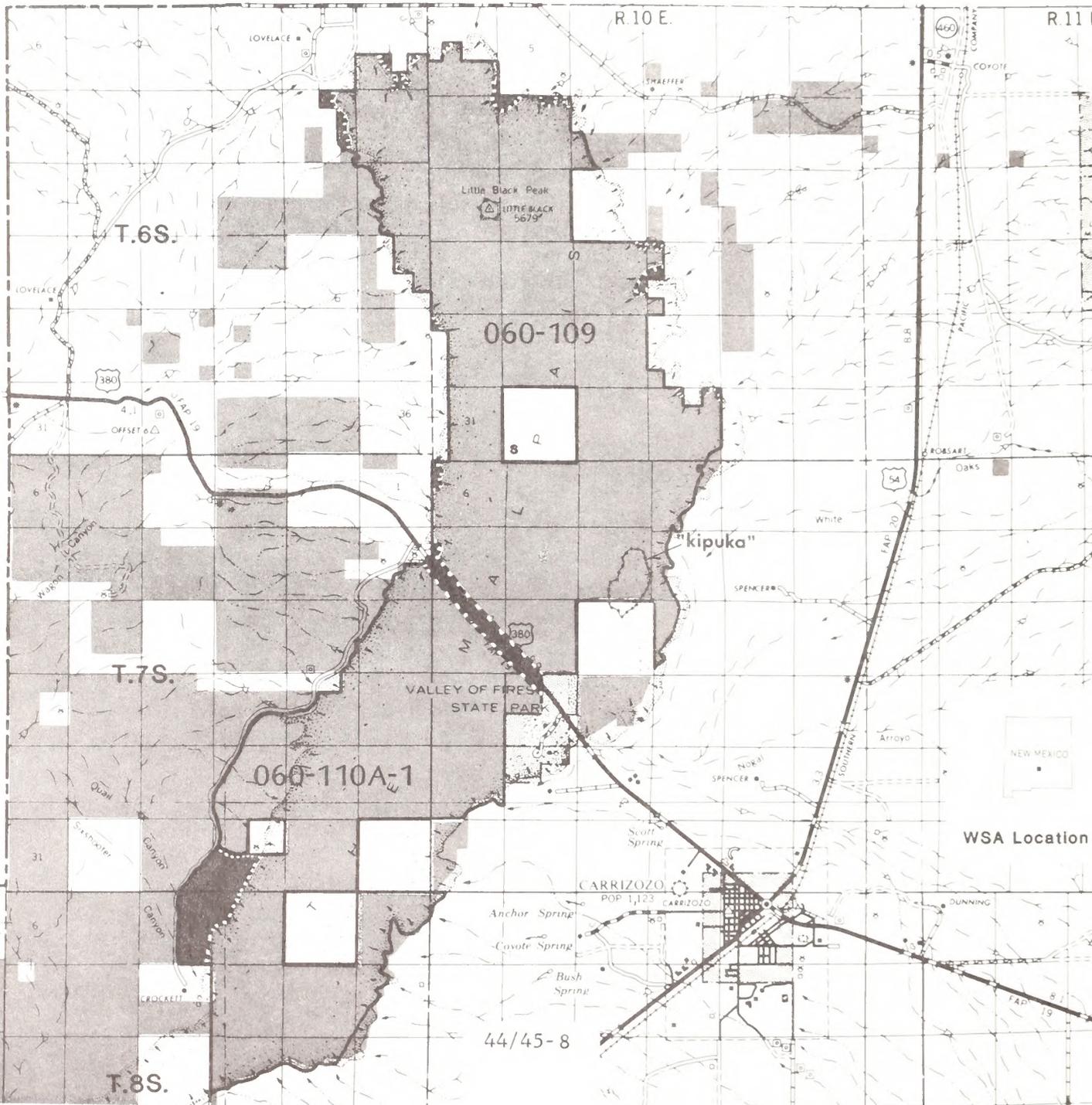
Land Status*

- BLM
- PRIVATE (NONE)
- STATE

Scale: 1/2 Inch=1 mile

* Non-BLM ownership is identified only inside the WSA s boundary.

Source: USDI BLM, Roswell District, April 1986



II. EXISTING RESOURCES

A. Geology

The Carrizozo Malpais is believed to be one of the youngest lava flows in the continental United States and is estimated to be less than 1500 years old. This young age is indicated by the flow's fresh and uneroded appearance. The lava flow in the WSAs was formed during two different volcanic episodes and both layers of lava can be detected in the area north of Little Black Peak and at a deep sinkhole in the southern WSA (Section 24, T. 7 S., R. 9 E.).



THIS 20 ACRE DEPRESSION IN THE CARRIZOZO LAVA FLOW WSA
CONTAINS A DEEP SINKHOLE THAT CUTS THROUGH 160 FEET OF
LAVA INTO THE UNDERLYING VALLEY FLOOR.

According to available information (Renault 1970), the majority of the upper and most recent lava flow is included within the WSAs. The age of the Upper Carrizozo flow has not been established through any reliable method such as potassium-argon dating and age estimates are based on the fresh appearance of volcanic features.

The flow exhibits all the features commonly associated with recent flows of basaltic composition, such as flow units, pressure ridges, collapsed lava tunnels and "kipukas" (a Hawaiian term for older rocks surrounded as islands by lava). The upper surface of the flow is highly porous due to gas bubbles that escaped during the last stages of cooling. In places it is sufficiently spongelike in texture to be termed scoria. Of the two contrasting surface textures which develop on flows, the surface of this flow is commonly known by its traditional Hawaiian term "pahoehoe" (or ropy) which has a twisted and convoluted surface.



PAHOEHOE, A ROPY TEXTURED FORM OF LAVA, IS A COMMON FEATURE OF THE CARRIZO MALPAIS IN BOTH WSA's.



The recent Pliocene age lava flow overlays older sedimentary rocks of the Permian age Yeso, San Andres, and Artesia Formations; Triassic age Chinle Formation ; and the Cretaceous age Dakota Sandstone and Mancos Shale Formations. All of the sedimentary formations have been tilted and appear at greater depths to the southeast. A small deposit of intrusive rock (molten rock that cooled below the surface) is exposed on the crest of the largest kipuka located at the southeast corner of Little Black Peak WSA.

B. Water

There are no perennial water sources in the WSAs and surface water is only available for short periods following a heavy rainfall or sudden snow melt. When surface runoff does occur the water flows from the surrounding areas into the lava and infiltrates into the ground. Surface precipitation within the lava flow either evaporates or travels a short distance and infiltrates.

Ground water in the area adjacent to the lava flow occurs from approximately 90 to over 500 feet in depth. Due to high salinity the water quality is marginal for human consumption, but it is suitable for livestock and wildlife. Total dissolved solids in the ground water range from 1,000 to 3,000 mg/L.

Water usage in the WSAs is low and most consumption is made by livestock and wildlife from available surface water.

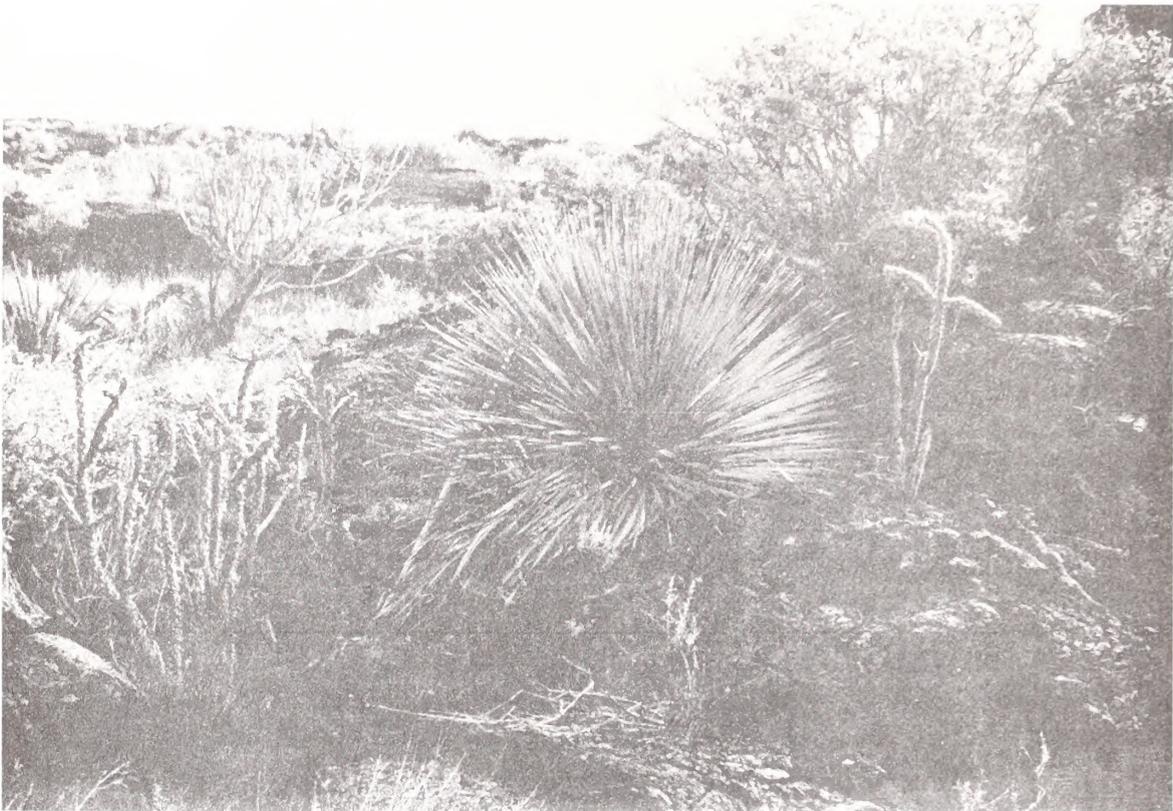
C. Soils

Six soil map units occur in the WSAs as mapped in the Lincoln County Area soil survey report. The majority of the area is shown as a lava flow map unit, which by definition is not considered a soil but is a land type describing the rocky lava flows. Some wind and water borne soil has been deposited in cracks and crevices in the lava which supports vegetative growth. Water and wind erosion hazards in the lava flow map unit are negligible.

The other five soil map units occur along the boundary of the lava flow and include the following soil series; Rance, Tanbark, Tortugas Andergeorge, Darvey, Asparas, Harvey and Gabaldon. These soils are not extensive within the WSAs because the boundary closely follows the edge of the lava flow. Rance and Tanbark soils have a high wind erosion potential. Tortugas soil has a high water erosion hazard and a slight wind erosion potential. Andergeorge, Darvey, Asparas, Harvey and Gabaldon soils have a moderate water erosion hazard and a high wind erosion potential.

D. Vegetation - Threatened or Endangered Plant Species

In comparison to surrounding areas the Carrizozo Malpais supports a remarkably diverse and luxuriant flora, 114 species exclusive of grasses compared to 51 species on the surrounding areas (Shields 1956).



ALTHOUGH THE CARRIZOZO MALPAIS IS BELIEVED TO BE A VERY RECENT VOLCANIC AREA, A DIVERSE COMMUNITY OF DESERT SHRUBS AND GRASSES HAS BECOME ESTABLISHED.

Both WSAs are within the Upper Sonoran Life Zone. Vegetation composition is primarily affected by a north-south elevation and precipitation gradient, with the north end being higher and wetter and, as a result, supporting a larger and denser tree and shrub community. Habitat type and aspect also influence vegetation composition within the lava flow.

No federal threatened or endangered plant species are known to occur in the area, as indicated by the U.S. Fish and Wildlife Service. One state plant of special concern (Rock Spleenwort Asplenium resiliens) is found within the Malpais. Habitat for this fern appears to be restricted to moist sinkholes.

Vegetative characteristics of the WSAs are summarized in the following table which indicates Standard Habitat Site classifications. Standard Habitat Sites (SHS) generally apply to broad areas with delineations based on similarities of vegetation and land form. This classification system is used for wildlife habitat management purposes.

<u>Standard Habitat Site (SHS)</u>	<u>Approximate % Composition of WSAs</u>
Juniper-Mixed Shrub/Malpais	55
Mixed Shrub/Malpais	39
Grass-Mixed Shrub/Limestone Hills	6

Most of the Juniper-Mixed Shrub SHS is found in the northern WSA, starting about 1-1/2 miles north of U.S. 380. This SHS is indicated by the presence of a sparse overstory of one-seed juniper. The Mixed Shrub SHS occurs in both WSAs, but the majority of this site is within the southern WSA. The Grass-Mixed Shrub SHS borders the lower western side of the lava flow in the southern WSA.

E. Wildlife and Threatened or Endangered Species

Human visitation into the central portion of the WSAs is largely curtailed by the forbidding nature of the terrain, thus providing a haven for game animals. The difficulties presented in extracting killed game from the flow interior limits most hunters and trappers to hunting within a short distance from the perimeter. Repeated aerial reconnaissance flights have consistently shown that the predominance of big game sightings are within a quarter to a half mile from the periphery. This fact, when considered with the abundance of available browse, makes it apparent that the absence of water within the confines of the flow is probably the main limiting factor in game distribution.

The lava flow supports a sizeable herd of mule deer yearlong. In addition, a small band of barbary sheep has been observed during three seasons (summer, fall and winter) indicating yearlong residency. Predator species inhabiting or regularly visiting the flow include coyotes, kit foxes, gray foxes, bobcats, and ringtail cats. Historical sightings of mountain lions either passing through or staying for a time have been recorded. Also, reportedly, a black bear inhabited the flow until it was removed by hunters.

The diversity of bird species in the lava flow is high when compared to the adjacent grass uplands and limestone hills. Several woodland and scrubland birds inhabit the area yearlong or seasonally.

Included in this list are vireos, warblers, jays, sparrows, and shrikes. Turkey vultures along with great horned owls concentrate in the flow for breeding and nesting. During the winter months, both golden and bald eagles can be seen hunting over the lava or resting within. Heavy use by raptors (birds of prey) is evidenced by the sightings of numerous whitewashed crags and ledges visible from the air.

An unusual characteristic exhibited by some of the smaller animals inhabiting the lava flow is that they have developed a melanistic, or darker, fur or skin coloration than is typical for their species. This coloration is believed to be an effective protective mechanism that camouflages animals residing within the dark colored lava flow. The presence of melanistic animals was noted by biologists as early as 1927 and several new rodent subspecies were first collected in this lava flow during the 1930's. Additional details about research activities appear in Chapter III.E. of this report. There are twelve animal species - six rodents, five lizards and one snake - residing within the WSA that have developed melanistic races. Individuals within these races exhibit a high degree of variability in melanistic character ranging from near normal to very dark coloration. The white-throated wood rat is unique in that it has developed melanistic races in this area; melanistic races of this particular species are not known to occur on other lava flows in New Mexico.

The bald eagle, a Federally listed endangered species, has been observed near the periphery of the flow. The black hawk, listed as a State endangered (Group II) species, may occasionally occur in the vicinity of the flow although no sightings have been recorded. No delineations of crucial habitat in the WSAs for threatened or endangered wildlife species have been made by the U.S. Fish and Wildlife Service.

F. Visual Resources

Visual quality of the WSAs has been evaluated in accordance with BLM's Visual Resource Management (VRM) system, which is described in the Bureau's 8400 manual series. This two part system includes both the inventory of existing scenic qualities and the assignment of management goals that are needed to minimize visual impacts.

The Carrizozo Lava Flow, which includes both WSAs, was rated as high scenic quality when compared with other land areas in this physiographic region. Also, since this rating area is visible from a major travel route, user sensitivity to visual modifications was rated as high. The striking color contrast between black lava rock and the brown to gray surrounding landscape is the most important factor contributing to the high scenic value of this area. Inventory findings indicated the lava flow portion of the WSAs should be managed in accordance with VRM Class II goals. Portions of the WSAs outside the lava flow have lower scenic quality and management in accordance with less stringent VRM Class III goals is indicated.

G. Cultural Resources

The perimeter of the flow in both WSAs is characterized by grassy fingers or inlets which extend into the flow body. On a seasonal basis, water may be available along the edges in catchments and intermittent playas; however, no permanent springs, seeps, or other waters have been located within the WSA boundaries. The lack of permanent waters along with the ruggedness of the terrain may have prevented extensive human habitation other than occasional visits. Flakes, scrapers, broken points, and various tools were located along the periphery although such findings were infrequent and scarce. Caves, ledges, and protective overhangs examined for evidence of use uncovered no artifacts; however, local residents have indicated extensive pothunting occurred in past years.

Prior to the construction of U. S. Highway 380 which bisects the WSAs, the northern edge of the flow was utilized as a rest stop along the old stagecoach route. According to local residents, a well (probably a deep catchment) existed within the interior of the northern edge and was used to draw and haul water to the stage horses. The ruins of at least four abandoned homesteads or line shacks are located in the malpais, generally within a few hundred feet of the edge. Constructed of lava rock foundations, the ruins are in varying stages of deterioration. Roofing materials include both lumber and tin with nearby corrals constructed of posts and wire or lava rock walls. Associated dumps indicate the age of the ruins to vary from the late 1880's through the mid 1930's.

H. Air

No air quality data is available for this area. However, the air quality is considered to be good since there are no major sources of air pollution in the area. During windy periods, especially in the spring, there is a significant amount of wind-borne dust and soil in the air.

III. EXISTING AND POTENTIAL USES

A. Mineral Resources

The primary source for mineral information used in this study report is from a document entitled "Geology, Energy and Mineral Resources Assessment in the Carrizozo Area, New Mexico". This document, referred to in abbreviated form as the GEM assessment, was contracted by BLM to supplement available information about mineral potentials in the WSAs. The GEM assessment may be inspected at the Roswell Resource Area BLM Office.

The GEM assessment indicated that, based on an analysis of existing information, there is no known mineral deposit or potential mineral occurrence in the WSAs that has more than a low favorability rating for development. Favorability ratings were based on an evaluation of the geologic environment, inferred geological processes and economic or technological constraints to resource development. The following mineral commodities were classified according to potential for development:

TABLE III-1
Mineral Potential of Carrizozo Lava Flow/Little Black Peak WSAs

<u>COMMODITY</u>	<u>ASSOCIATED ENVIRONMENT</u>	<u>MINERAL POTENTIAL</u>	<u>ACREAGE</u>
Oil and Gas	Paleozoic rocks	Low	*
Salt and Gypsum	Permian evaporites	Low	*
Geothermal	Quaternary basalt	Low	*
Replacement deposits of iron	Limestones and Gypsum intruded by tertiary igneous rocks	Low	*
Stratabound copper	Redbeds in Yeso Fm.	Low	*
Hydrothermal and porphyry copper/molybdenum	Tertiary intrusives within Paleozoic rocks	Low	*
Uranium and thorium	Paleozoic limestones and Dakota sandstone	Low	*
Hydrothermal barite and fluorite	Structurally controlled hydrothermal deposits	Low	*

*Acreage on areas of low potential were not calculated.

Leasable Minerals

Several sources of information were considered in order to determine the potential for development of oil and gas resources. The WSAs were classified as prospectively valuable for oil and gas by the U.S. Minerals Management Service (MMS). An industry source, Atlantic Richfield Company, rated the northern WSA as having high intermediate favorability and the southern WSA as low intermediate favorability for oil and gas resources. Both WSAs have been rated as having low favorability in the GEM assessment based on indirect evidence. One well drilled on the western edge of Little Black Peak WSA encountered a show of oil in the San Andres Formation. Three exploration wells were located about one mile east of the lava flow and two are known to have shows of oil and gas. Two wells have been drilled several miles west of the lava flow - one well had a show of oil and gas while the other well was a dry hole. As of April 1982, 80% of federal oil and gas acreage in the WSAs had either been leased or applications were pending. The interest in leasing and the number of wells that contained shows of oil or gas seemed to indicate that this portion of the Tularosa Basin had a potential for hydrocarbon resources. However, based upon leasing records as of April 1986, about 15% of the total WSAs' acreage was covered by parts of 8 leases. Approximately 14% of the northern WSA and 17% of the southern WSA was under lease. This decline in leasing interest appears to indicate a reduced interest in exploration for potential hydrocarbon resources. Whether or not there are any economic reserves of hydrocarbons underlying the WSAs is a question that can only be confirmed or denied through additional exploration. Location of mineral leases is shown on Map III-1.

All leases for federal minerals within the WSAs were processed after passage of the Federal Land Policy and Management Act (FLPMA) and lease operations are subject to regulation to protect wilderness values. A wilderness protection stipulation on these post-FLPMA leases seriously constrains potential exploration activities in rocky areas since allowable activities must be temporary and must be reclaimed to a substantially unnoticeable condition.

There is a low potential for other lower value leasable mineral resources in the WSAs, based upon indirect evidence. Salt is known to occur in the Yeso Formation. This formation is exposed in the southern WSA and a thick salt sequence was encountered in a nearby oil exploration hole. Potential development of this resource, if it is confirmed to exist in the southern WSA, would be limited since the reserves are probably covered by considerable amounts of overburden and deposits are located distant from potential markets. Geothermal potential has been rated as low favorability based on indirect evidence from the presence of recent basalts. The MMS did not classify geothermal potential for the WSAs, nor have there been any leases or applications.

Locatable Minerals

Currently, there are no mining claims, exploration or development activities for locatable minerals taking place in the WSAs. Twenty-two recent mining claims within the northern WSA on the large kipuka in Sections 9 and 10, T. 7 S., R. 10 E were relinquished by the claimant on February 21, 1985. During the summer of 1980 several exploratory holes were drilled on the claims but no information is available from these tests. Uranium claims had been located on the kipuka in the mid-1950's but have since been abandoned.

Due to the presence of an exposure of intrusive rocks in the northern WSA (the eastern part of the kipuka in Section 9 and 10, T. 7 S., R. 10 E.), this location has been rated as having a low potential for the accumulation of; hydrothermal gold, silver, copper, lead, porphyry molybdenum-copper and uranium. According to available information, the recent mining claims at this site were targeted for both copper and uranium. There is a low potential for stratabound copper-silver deposits in the Yeso Formation along the southwestern margin of the southern WSA. Uranium deposits in San Andres limestone along the western border of the lava flow and at the Tertiary intrusive are a low potential in both WSAs. There is a low potential for replacement deposits of iron to occur in both WSAs where sedimentary rocks have been intruded by igneous rocks. Magnetite has been found in similar situations in areas several miles north of the WSAs.

There is low favorability for the occurrence of hydrothermal fluorite and barite associated with the small Tertiary intrusive in the northern WSA. Gypsum is present in the Permian Yeso and San Andres Formations and subsurface deposits are known to occur on the western margin of both WSAs. Gypsum was mined from the San Andres Formation in the Jicarilla Mountains northeast of Little Black Peak WSA in the early 1900's, but production in the Jicarilla area ceased due to unfavorable economic conditions.

Little Black Peak (060-109) and Carrizozo Lava Flow (060-110A-1) WSA s

Legend

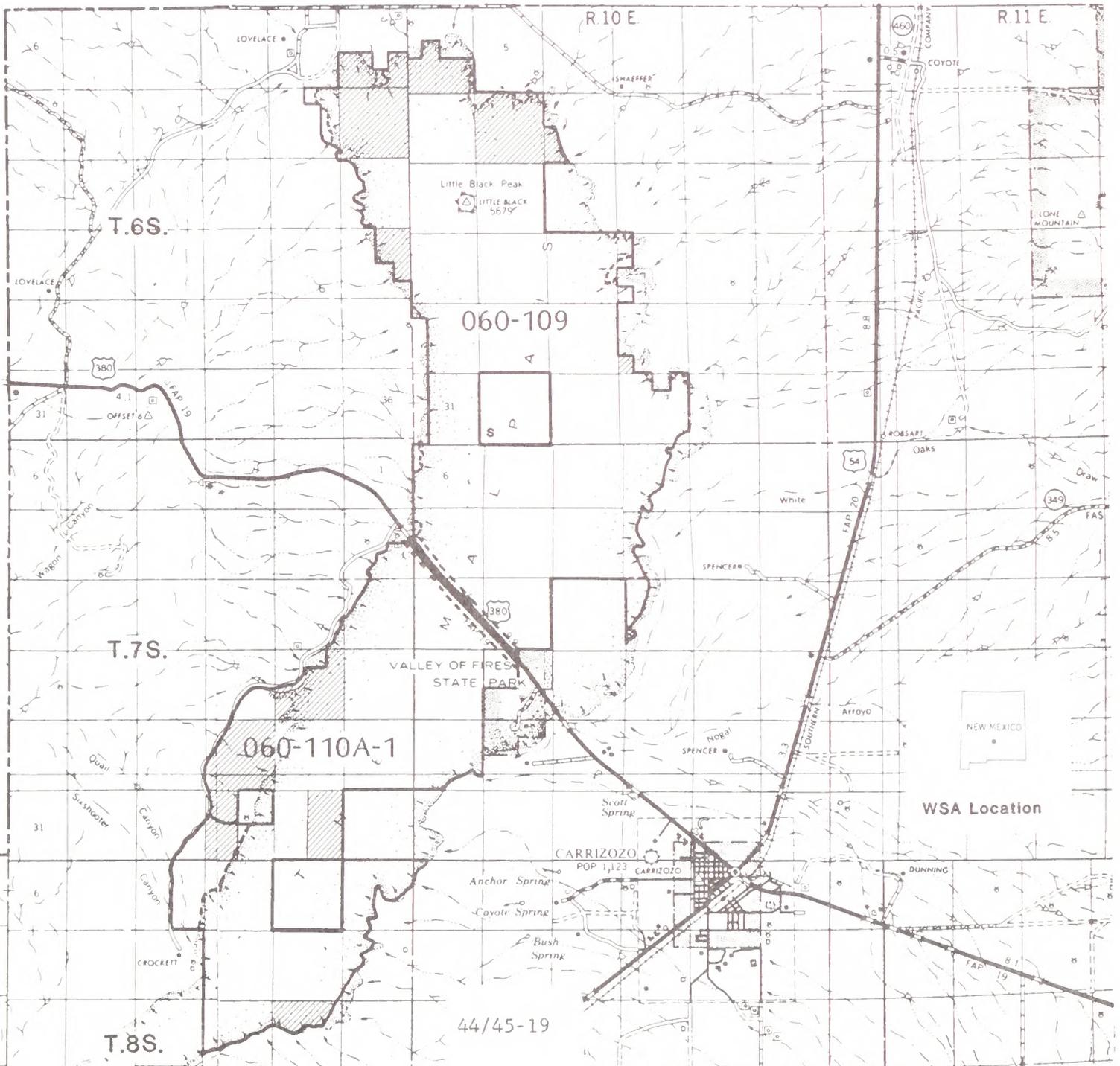
— WSA BOUNDARY

- - - AMENDED BOUNDARY / PROPOSED ACTION

▨ POST-FLPMA OIL AND GAS LEASES INSIDE WSAs (SOURCE: Roswell BLM District lease records, April 1986)



Scale: 1/2 inch = 1 mile



WSA Location

44/45-19

Salable Minerals

There currently are no active material sales within the WSAs, but scoria was sold from 1964 to 1972 at a location on the east side of Carrizozo Lava Flow WSA (Section 31, T. 7 S., R. 10 E.). This extraction site was excluded from the WSA boundary due to the substantially noticeable nature of the intrusion.

Scoria, basalt, sandstone and limestone from the WSAs could potentially be sold for landscaping and building material use, dependent upon local public demand or the availability of external market areas. This potential use is reduced by the availability of adequate supplies at nearby alternative source areas where materials are currently being extracted.

There is a low favorability for sand and gravel accumulations in about 300 acres of alluvial deposits in the southwestern corner of the southern WSA. Use of this potential resource would be limited by the distance to population centers and lack of legal access to potential deposits.

B. Watershed

The lava flow is in a stable erosion condition class due to its rocky nature which serves as an excellent water trap for surface precipitation and external drainages. The remaining soils which occur around the edges of the lava flow are in the slight erosion condition class. Due to the good watershed conditions, no management activities are proposed for the purpose of enhancing water resources.

C. Livestock Grazing

Cattle use occurs only on small areas within the boundaries of both WSAs. Appreciable use occurs only on the 1,429 acres of limestone hills and alluvial plains on the west side of the Carrizozo Lava Flow WSA, an accessible kipuka, and grassy inlets bordering the lava flow elsewhere. Livestock, with the exception of goats, are unable or refuse to travel any distance in the lava due to rugged terrain and lack of water sources. In the past, two livestock operators, the Crockett Ranch (now Schrecengost) and the Harkey Ranch grazed goats in the lava. Both ranchers had to sell the goats when their herders quit and couldn't be replaced. Goats were last licensed on the Crockett Ranch in 1964. Public land (6,415 acres) in the former Harkey Ranch has not been included in a grazing allotment since 1965. All other ranchers indicated in 1965 that they had no desire to graze goats in the lava flow area, however, they retain their original grazing adjudication which may allow them to change class of livestock from cattle to goats. This constitutes a potential grazing use in both WSAs. No range improvements have been proposed inside either WSA.

Decisions on livestock grazing methods, class of livestock and carrying capacities are not within the scope of this study document since these matters are normally decided as part of the land use planning process.

Information concerning existing and potential livestock grazing appears on the following Table III-2.

TABLE III-2: LIVESTOCK GRAZING IN THE CARRIZOZO LAVA FLOW AND LITTLE BLACK PEAK WSAs

Name	Allot. Number	WSA	Acres in WSA	AUM's ^a in WSA	
				Existing	Potential
Schrecengost	3076	CLF ^b	1429 ^c	230	65
Fritz	3077	LBP ^d	4412	e	71
Bar W Ranch	3080	LBP	2398	e	36
		CLF	1207	e	24
Gallacher Ranches	0367 ^f	LBP	3290	e	45

Source: Grazing case files.

a. An AUM (Animal Unit Month) is the amount of forage necessary for the sustenance of one cow or its equivalent for 1 month.

b. Carrizozo Lava Flow WSA.

c. Includes only land outside of lava flow but within WSA.

d. Little Black Peak WSA.

e. Not calculated.

f. Gallacher Ranches are under administration of BLM Socorro District.

D. Recreation

Recreation resources in these units are quite diverse. Currently both areas are receiving increasing hunting pressure for deer and quail. The flow contains a moderate deer population (est. 3 per section); the area is popular because of stories of some extremely large deer being taken in the flow. The recent discovery of a small herd of Barbary sheep in the flow will probably add to this area's popularity.

The unique plant, animal and geological features found at the flow attract many visitors each year. There is no visitor use data for either of the two WSAs, but information is available for Valley of the Fires State Park located between the WSAs. A five-year average visitation at Valley of the Fires State Park is 48,000, but has been known to reach over 75,000 visits in a single year. This park, with its campground, toilets, etc., is an excellent place for visitors to set up camp and visit the surrounding lava fields within the two study areas. This park also has a "Malpais Nature Trail" which explains the flora, fauna and geologic features of this unique lava flow.

Other recreational uses in the lava flow are hiking, bird watching, nature study and spelunking. Hikers and weekend naturalists find the lava field interesting because of the availability of diverse plant and animal communities, visual attractiveness and challenging terrain with sinkholes and caves. The majority of the visitors park along U. S. Highway 380 and walk into the study areas.

The potential use of this area has never been realized primarily because of a lack of adequate access, limited parking space next to U. S. Highway 380 and widespread lack of knowledge of the area by the public. Rights-of-way for the public on private roads could provide better recreation access. Future plans for U. S. Highway 380 involve enlarging the roadway. Construction on this highway would present the opportunity to construct more pullouts and increase recreational use. Valley of the Fires State Park is helping to make the public aware of the flow and its recreation potential.

E. Education/Research

The Carrizozo Malpais has been an important locale for scientific study by biologists, botanists and geologists since the late 1920's and some research activities are taking place at the present time.

Early biological explorers first described flora and fauna of the lava flow in connection with more extensive surveys in the Tularosa Basin. The reported presence of melanistic (dark colored) races of small animals sparked the interest of other researchers in this particular lava flow. Scientists on an expedition sponsored by the University of Michigan in 1927 reported the discovery of a very light-colored pocket mouse at White Sands and a dark-colored pocket mouse in the nearby lava beds (Dice 1930). The relationship between animal and habitat coloration was believed to be the result of isolation and natural selection, but no conclusive evidence was obtained to confirm or deny this theory (Benson 1933). L. M. Shields (1956; 1957) described vegetation of the lava flow and conducted studies concerning the role of lichens and algae in nitrogen formation in volcanic soils. Dr. S. E. Reichert of the University of Tennessee is conducting a behavioral and energetics study on a species of spider that inhabits the flow (Personal Communication 1982). Geologists have analyzed the mineral composition of the lava and studied flow formation processes.

Geological guidebooks with descriptions of the lava flow are available to provide an educational opportunity for visitors. The "Malpais Nature Trail" at Valley of Fires State Park provides an educational experience for park visitors and students from nearby schools. In addition to existing educational uses, information gained from scientific studies may enhance future educational values of the WSAs.

F. Realty Actions

There are no existing rights-of-way, withdrawals, easements or permits on public lands within the boundaries of either WSA; the WSA boundaries are located 50 feet on either side of the U.S. Highway 380 centerline.

The only known potential realty action in the WSAs would be in the immediate vicinity of the U.S. Highway 380 corridor. The New Mexico State Highway Engineer has indicated that the lava flow segment of U.S. Highway 380 needs reconstruction and a right-of-way should be acquired. Long-term potential needs for highway purposes in this area are estimated to affect no more than a 300 foot wide corridor of public lands.

G. Military Use of Airspace

The United States Air Force currently uses airspace either directly above or in the immediate vicinity of both WSAs for airborne tactical training maneuvers. This use normally consists of flights at elevations below 10,000 feet at speeds in excess of 250 knots. Some high speed flights occur at 500 to 1500 feet above ground level.

At the time this report was prepared there were parts of three military training routes and one restricted area overlying the WSAs. However, training routes are periodically modified or deleted to introduce route variation and prevent pilots from memorizing a particular course of travel. It is possible that at different times airspace above the WSAs may not be within any training route.

The Air Force has indicated that continued use of airspace above the WSAs is essential to their operational and training missions.

IV. WILDERNESS CRITERIAA. Evaluation of Wilderness Values1. Quality of Mandatory Wilderness Characteristicsa. Naturalness

The imprint of man's work is very limited within the boundary of both WSAs. Two major factors which contribute to the generally natural appearance of these WSAs are: (1) the lack of exploitable resources and presence of rugged terrain within the lava flow has prevented most of man's activities; and (2) areas containing significant manmade intrusions were excluded from the study area boundaries during the inventory process.

Imprints of man that are known to be within the current boundaries for both WSAs are described as follows and depicted on the accompanying map:

(1) Vehicle Routes - There are portions of six low-standard motorized vehicle access routes within the WSAs' boundaries, with most routes paralleling the edge of the lava flow. One vehicle route provides access across less than 1/4 mile of lava to the kipuka in Section 9, T. 7 S., R. 10 E.

(2) U.S. 380 Travel Influence Zone - There is an unauthorized trash dump, scattered roadside litter and some painted graffiti on lava rocks that border U.S. Highway 380. One abandoned homestead in the Little Black Peak WSA is within this travel zone. The trash dump, graffiti and most homestead debris were removed by BLM personnel in 1985 and these imprints are currently almost unnoticeable.

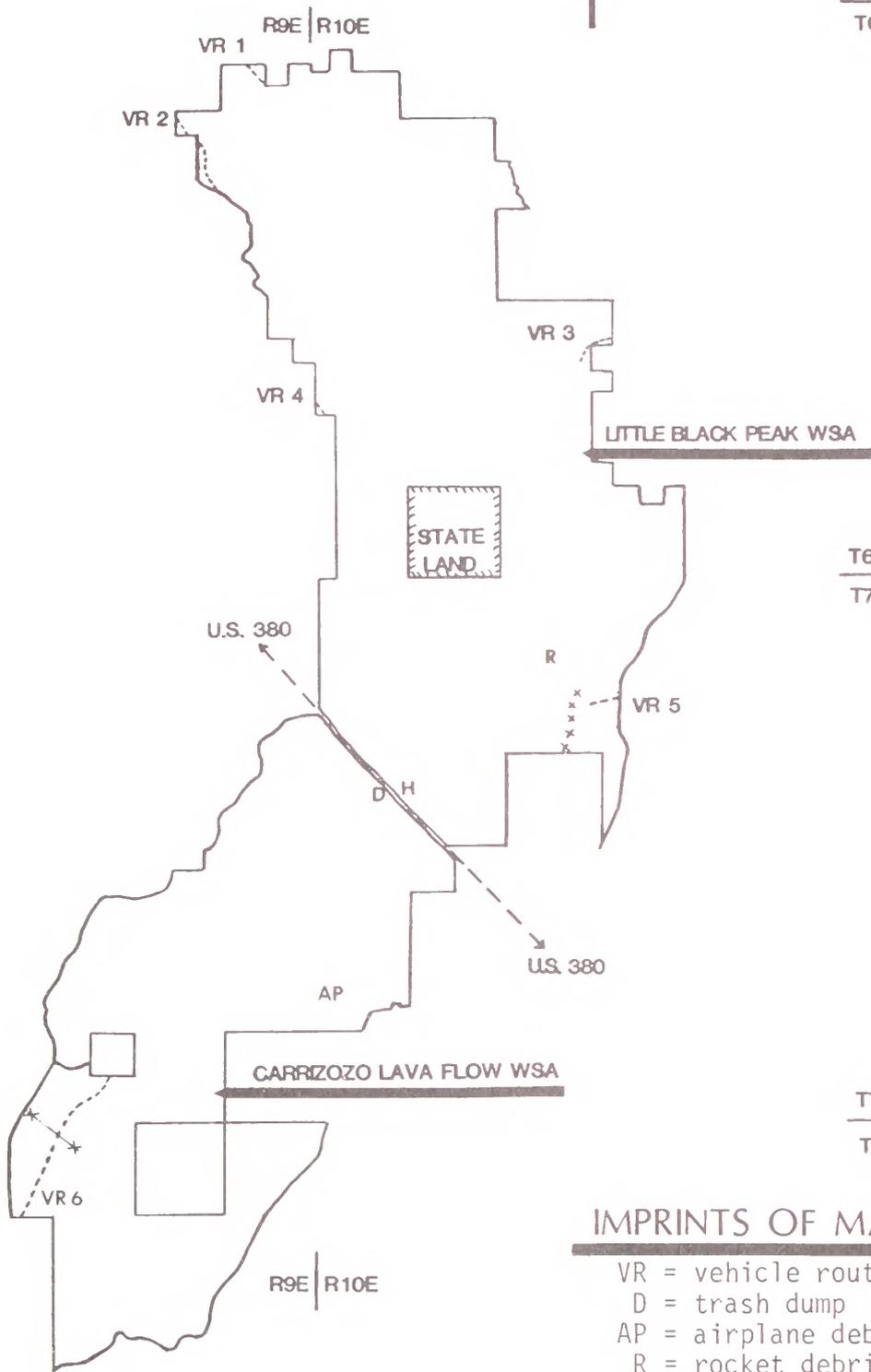
(3) Mineral Exploration - There are 5 prospect trenches, some of which are 40' long by 20' wide by 8' deep, on the kipuka in Section 9, T. 7 S., R. 10 E. These trenches are noticeable within the kipuka but natural vegetation has reduced their offsite noticeability to some extent. Recent exploratory drill holes on the kipuka are substantially unnoticeable.

(4) Miscellaneous Imprints - In the southern WSA there is debris from a wrecked airplane and about 1/2 mile of barbed wire fence, and debris from a wrecked rocket or missile is in the northern WSA.

The individual and cumulative effect of human imprints within the WSAs has not significantly impaired their natural character. The minor imprints that are present near the lava flow edge are easily removed from view by traveling a short distance inside the lava which has excellent topographic screening qualities. Due to the location of these imprints near the WSAs' external boundaries, it would be possible to exclude imprinted areas from a wilderness recommendation. The screening effects of topography also minimize the influence of outside sights and sounds of highway traffic upon the naturalness characteristic.



T5S
T6S



IMPRINTS OF MAN IN WSA s :

- VR = vehicle routes (1 through 6)
 - D = trash dump
 - AP = airplane debris
 - R = rocket debris
 - H = abandoned homestead
 - X = mineral prospect pits
 - x = fence
- SCALE; one-half inch = one mile

The apparent high quality naturalness of these WSAs would be readily perceived by the average visitor. In fact, the naturalness of the relatively undisturbed ecosystem inside the lava flow is one of the distinguishing wilderness qualities for both WSAs. Evidences of man are so dispersed and limited that an average visitor would be led to believe they were the first human to set foot on or observe most areas in the lava flow.

b. Solitude

The rough and broken surface of the lava flow provides an outstanding opportunity for visitors to find solitude. Topographic features such as pressure ridges, fissures and depressions allow visitors to be screened from one another and from impacts outside the area such as vehicles on U.S. Highway 380. The relatively large size and generally desirable configuration of both WSAs and the presence of a scattered overstory of juniper trees, which are more abundant in the northern WSA, also enhance solitude. Other factors that contribute to solitude opportunities in the WSAs consist of limited legal accessibility for the general public, the lack of water sources needed to support unconfined recreation and low levels of visitor use. These factors are expected to influence solitude opportunities in the WSAs during the foreseeable future.

Portions of the WSAs outside the lava flow do not provide as high a quality setting for solitude. This reduced quality is especially noticeable in the alluvial plains on the southwestern edge of the southern WSA which lack topographic and vegetation screening. An intermittently occupied dwelling on private land borders this portion of the WSA.

The sound of vehicles on U.S. Highway 380 would detract, in varying degrees, from solitude on WSA lands bordering this travel route. Noise impacts would vary according to the proximity of visitors to the highway and upon the availability of screening topography that would reduce noise levels. This localized impact is not expected to diminish the solitude that is characteristic of the WSAs since users would still be able to find a secluded spot. High noise levels generated by low flying military aircraft that use airspace above the WSAs for training missions would intermittently diminish solitude opportunities. Visitors would not be able to avoid this short duration and infrequent noise impact. However, this activity is not considered to be a barrier to wilderness designation since there are designated wilderness areas that are subject to similar uses.

Although there are some factors that detract from solitude opportunities in the WSAs, their cumulative impact is not considered as being great. The overall quality of this wilderness characteristic is rated as high.

c. Recreation

Opportunities for primitive and unconfined types of recreation in the WSAs consist of hunting, hiking, nature study, spelunking, photography and dispersed sightseeing activities that focus on cultural, geological, botanical and zoological resources. The intricately broken surface of the lava flow portion of the WSAs is an effective barrier to motorized vehicle use. This physical quality enhances opportunities for primitive recreation experiences.

The unavailability of water sources inside the WSAs and poorly distributed legal access routes limits the potential for dispersed recreation uses. Visitor activities would be confined to the range that carried water supplies would permit a person to travel. Therefore, opportunities for dispersed use are greatest in the central portion of the WSAs and most limited at the northern and southern ends. The absence of a multitude of landforms, well defined travel routes and points of interest in the WSAs may detract from some people's perception of recreation qualities. People that expect those qualities in a wilderness area would not be intrigued by the opportunities these WSAs offer.

Overall, even though there are some resource limitations, the quality of recreation opportunities in both WSAs is rated as outstanding.

2. Special Features

The diversity of vegetation, presence of melanistic forms of wildlife, availability of unusual geological features such as caves and volcanic landforms, and the scenic qualities of the recent lava flow constitute the special features of these WSAs.

3. Multiple Resource Benefits

Resource values and uses in the WSAs that would be perpetuated through wilderness designation and protective management include wildlife habitat and associated species, cultural values, watershed, nonmotorized recreational activities and scenic values.

Congressional designation as wilderness would carry the weight of law and would provide a greater degree of long term protection for natural values than would the administrative designations available to the Bureau.

4. Diversity

a. Ecosystems Present

Use of the Bailey-Kuchler classification system has been selected by BLM to ensure nationwide consistency in evaluating this diversity criteria. According to the Bailey-Kuchler system, both WSAs are located within the Colorado Plateau Province and have Juniper-pinon woodland potential natural vegetation.

b. Distance To Population Centers

The WSAs are within 5 hours driving time from the following Standard Metropolitan Statistical Areas - Albuquerque, New Mexico and both El Paso and Lubbock in Texas.

B. Manageability

In order for the WSAs to be recommended as suitable for wilderness designation they must be capable of being managed over the long run to preserve wilderness character. Manageability of an area is determined based upon an evaluation of provisions contained in BLM's Wilderness Management Policy (WMP). The following manageability factors were determined to potentially affect the ability of the BLM to preserve wilderness character: State inholdings and a potential realty action.

The State inholding in Little Black Peak WSA (Section 32, T. 6 S., R. 10 E.) is potentially subject to exploration for oil and gas resources because this land has been leased. It is probable that use of State lands would occur prior to the lease expiration date in June 1991. Exploration activities are more likely to occur on State lands since there are no restrictions to protect wilderness values, as is the case on surrounding public lands. Although it is difficult to predict what exploration method would take place, it is assumed that in the most extreme case, road access would be needed across WSA lands. Two State sections are located on the east boundary of the Carrizozo Lava Flow WSA. Section 36, T. 7 S., R. 9 E., has been leased for oil and gas development while Section 2, T. 8 S., R. 9 E. is open for leasing. At the present time road access could be provided to Section 36 across public lands that are outside of the WSA in Section 31, T. 7 S., R. 10 E. However, if road access is ever needed to Section 2, the shortest route would be across WSA lands in Section 1, T. 8 S., R. 9 E. Depending upon the construction methods, routing and type of materials used for potential access roads, these non-conforming uses would have localized effects but would not significantly interfere with manageability of the WSAs and boundary adjustments are unnecessary.

The potential right-of-way expansion and reconstruction work on U.S. Highway 380, in addition to the concentrated imprints of man along this travel route, impairs wilderness manageability in contiguous portions of both WSAs. Present and potential activities are reasonably certain to destroy wilderness character in the affected area, but a boundary adjustment could prevent manageability problems.

BLM is reasonably certain, based upon present knowledge of the resource values and non-federal rights which exist, that both WSAs can be managed long-term as wilderness.

The WSAs are manageable as wilderness; however, manageability would be enhanced through acquisition of one State inholding in Little Black Peak WSA and other unimpaired state and private lands within the lava flow that border both WSAs. This potential enhancement measure, conducted through a voluntary exchange or purchase program, would be conducted with the goal of acquiring non-federal lands that would form logical additions to a designated wilderness. If the WSAs are designated as wilderness, a land consolidation program would reduce problems associated with providing adequate access to inholdings and would allow for consistent management of the lava flow landform. Irregular ownership patterns along the edge of the lava would be improved and a wilderness boundary that coincides with the lava flow edge could result. Other non-federal lands could be acquired, although for reasons which aren't essential for wilderness management purposes, such as providing for legal and physical access.

The maximum amount of land acquisitions needed to enhance wilderness manageability and provide for legal access is about 9,800 acres. The location of potential land acquisitions are described in the listing on the following page:

		<u>LBP/CLF</u>	
<u>Land Description (New Mexico Principal Meridian)</u>		<u>Acres</u>	<u>Ownership Status</u>
T. 6 S., R. 9 E.,	Sec. 1: Lots 1 through 12 and NW $\frac{1}{4}$ SE $\frac{1}{4}$	436.60	Private
	Sec. 2: Lots 1, 2, 7 through 10 and SE $\frac{1}{4}$	371.27	State
	Sec. 11: W $\frac{1}{2}$ SE $\frac{1}{4}$ and SW $\frac{1}{4}$ NE $\frac{1}{4}$	120.00	Private
	Sec. 24: S $\frac{1}{2}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$ and NW $\frac{1}{4}$ SE $\frac{1}{4}$	240.00	Private
	Sec. 25: E $\frac{1}{2}$	320.00	Private
T. 6 S., R. 10 E.,	Sec. 5: Lot 12, S $\frac{1}{2}$ S $\frac{1}{2}$ and NW $\frac{1}{4}$ SW $\frac{1}{4}$	240.00	Private
	Sec. 6: Lots 1 through 9 and Lot 12	411.89	Private
	Sec. 9: W $\frac{1}{2}$ NW $\frac{1}{4}$	80.00	Private
	Sec. 16: All	640.00	State
	Sec. 22: E $\frac{1}{2}$ W $\frac{1}{2}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ and NW $\frac{1}{4}$ SW $\frac{1}{4}$	280.00	Private
	Sec. 27: NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$ and SE $\frac{1}{4}$ SE $\frac{1}{4}$	440.00	Private
	Sec. 30: Lots 2 through 4	103.22	Private
	Sec. 31: Lots 1 through 4	139.32	Private
	Sec. 32: All	640.00	State
	Sec. 34: NW $\frac{1}{4}$ NE $\frac{1}{4}$	40.00	Private
	Sec. 35: W $\frac{1}{2}$ W $\frac{1}{2}$	160.00	Private
T. 7 S., R. 9 E.	Sec. 1: E $\frac{1}{2}$ E $\frac{1}{2}$	160.00	Private
	Sec. 11: NE $\frac{1}{4}$ SE $\frac{1}{4}$	40.00	Private
	Sec. 12: NE $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$ and SW $\frac{1}{4}$ NW $\frac{1}{4}$	280.00	Private
	Sec. 23: NW $\frac{1}{4}$ NE $\frac{1}{4}$ and NE $\frac{1}{4}$ NW $\frac{1}{4}$	80.00	Private
	Sec. 34: NE $\frac{1}{4}$	160.00	Private
	Sec. 36: All	639.68	State
T. 7 S., R. 10 E.,	Sec. 3: Lots 1 through 5, S $\frac{1}{2}$ SE $\frac{1}{4}$ and NE $\frac{1}{4}$ SE $\frac{1}{4}$	248.69	Private
	Sec. 10: Lot 4	26.70	Private
	Sec. 15: Lots 1 through 5	186.72	Private
	Sec. 16: All	656.16	State
	Sec. 21: Lots 1, 2, 4 through 6	89.68	State
	Sec. 21: E $\frac{1}{2}$ SE $\frac{1}{4}$ and SW $\frac{1}{4}$ SE $\frac{1}{4}$	120.00	Private
	Sec. 22: NW $\frac{1}{4}$ NW $\frac{1}{4}$	40.00	State
	Sec. 29: Lots 1 through 20 and NW $\frac{1}{4}$ NE $\frac{1}{4}$	558.11	Private
	Sec. 30: Lots 1 through 3	60.97	Private
	Sec. 31: Lot 1, 3, 4 and N $\frac{1}{2}$ NE $\frac{1}{4}$	132.63	Private
	T. 8 S., R. 9 E.,	Sec. 2: All	640.00
Sec. 9: E $\frac{1}{2}$ NE $\frac{1}{4}$		80.00	Private
Sec. 12: Lots 1 through 4, NE $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ and SE $\frac{1}{4}$ SW $\frac{1}{4}$		245.18	Private
Sec. 13: E $\frac{1}{2}$ NW $\frac{1}{4}$		80.00	Private
Sec. 14: Lots 1 through 2		31.58	Private
Sec. 16: Lots 2 through 8, NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$ and NW $\frac{1}{4}$ SE $\frac{1}{4}$		604.28	State
Sec. 16: Lot 1		10.13	Private
Private Subtotal		5511.74	Acres
State Subtotal		4321.07	Acres
Grand Total		9832.81	Acres

V. IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. ALL WILDERNESS ALTERNATIVE

Under this alternative, the entire 25,312 acres of public lands in both WSAs would be recommended as suitable for wilderness designation (see map on page 44/45-6 for a description of the WSAs' boundaries). If designated wilderness, the existing uses and activities in the area and potential uses identified in Chapter III would be managed under the constraints of the Wilderness Management Policy (BLM 1981).

The Carrizozo Lava Flow WSA presently supports approximately 19 CYL (230 AUM's) in the 1,429 acre non-lava flow portion of the Schreengost Allotment. Grazing data has not been collected for other portions of the WSAs that are accessible to domestic livestock, but the estimated 324 acres probably support less than 4 CYL. Under BLM's Wilderness Management Policy there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. Therefore, this alternative would have no effect on grazing permits or privileges. Maintenance of 1/2 mile of barbed wire fence would have to be accomplished on foot or horseback, or motorized vehicles could be authorized by specific permit.

The major changes that could occur in the WSAs would be related to withdrawal from mineral location, and closure to new mineral leasing material sales and issuance of rights-of-ways. About 4 miles of existing vehicular ways in the WSAs would be closed to vehicular use except for approvals by BLM. The WSA would be managed under VRM Class I. For the following analysis it is assumed that existing oil and gas leases would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas would not be allowed.

1. Impacts on Wilderness Values

Wilderness designation would provide for long-term protection of the lava flow, opportunities for solitude, hiking and spelunking as well as the opportunity to study melanistic species in a natural environment. Existing imprints of man would be rehabilitated to substantially unnoticeable conditions and vehicle routes would be closed to motorized use.

Conclusion: The impacts to wilderness values would be significant because of the added long-term protection offered by Congressional designation.

2. Impacts on Livestock Grazing Use Levels

Potential use by goats of presently ungrazed areas would be managed to prevent conflicts with wilderness values, such as plant communities and wildlife habitat. Range improvements, if needed, would be constructed only for improved management of livestock or for resource protection, and not for the purpose of increasing herd sizes. Generally, motorized access on 4 miles of existing trails would not be permitted. However, if there were no practical alternatives, permits for vehicle use could be issued to livestock permittees.

Conclusion: Impacts to livestock grazing would not be significant since this action would result in an inconvenience to livestock operators that may desire to use vehicles for access. There would be no impact to livestock grazing use levels.

3. Impacts on Highway Expansion

Potential expansion in the width of U.S. Highway 380 would be precluded by this alternative. The highway right-of-way would remain at 100 feet wide and future activities would be confined to that corridor. Denial of highway expansion to improve safety and meet demands for increased traffic could be highly controversial and would result in a significant impact. Safety impacts could occur if adjoining parts of the highway are improved and traffic volume increases in the future.

Conclusion: Under the All Wilderness Alternative, the impacts upon use of U. S. Highway 380 would be significant since major maintenance activities would be confined to a narrow corridor and sufficient space for highway expansion would not be available.

B. AMENDED BOUNDARY ALTERNATIVE (PROPOSED ACTION)

Under this alternative, 24,344 acres would be recommended as suitable for wilderness designation and boundary adjustments would exclude approximately 968 acres of public land from a wilderness recommendation. Boundary adjustments would remove lands with lower quality wilderness characteristics, eliminate significant impacts on highway expansion, and enhance manageability of the remaining area. Boundary adjustments consist of removing 914 acres of relatively flat and open terrain bordering the lava flow, and 54 acres of WSA lands paralleling U.S. Highway 380. The amended boundary alternative is depicted on Map I-1 on page 44/45-6 of this report.

The major activities and management assumptions regarding impacts that would occur in the designated portion of the WSAs for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action/No Wilderness Alternative.

In 24,344 acres designated as wilderness, opportunities for exploration and development of minerals would be foregone. Short-term consumptive uses would not degrade the maintenance and enhancement of the long-term productivity. Although designation of wilderness constitutes a long-term commitment of resources, such designation is reversible by Congress.

In the 968 acres not designated as wilderness, unavoidable adverse effects of the proposed action will result from future surface disturbance activities. Over the long-term, these activities will reduce the quality of wilderness values by adversely affecting naturalness, opportunities for solitude and primitive recreation and special wilderness features. Also, cumulative short-term consumptive uses of this land will lead to long-term degradation of wilderness values. Nondesignation of 968 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values that could foreclose the option of wilderness designation in the future.

The Carrizozo Lava Flow WSA presently supports approximately 11 CYL (135 AUM's) in the 839 acre non-lava flow portion of the Schrecengost Allotment included in this alternative. Grazing data has not been collected for other portions of the WSAs that are accessible to domestic livestock, but the estimated 324 acres probably support less than 4 CYL. Under BLM's Wilderness Management Policy there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. Therefore, this alternative would have no effect on grazing permits or privileges. There would be no impact to maintenance of 1/2 mile of barbed wire fence because that facility is not located within the wilderness recommendation for this alternative.

1. Impacts on Wilderness Values

Under this alternative, wilderness values in the most manageable part of the WSA would be protected through long-term Congressional designation, which is a significant impact. The rugged topography inside the designated wilderness would serve as a barrier to nonconforming uses. Management of the 968 acres of WSA lands excluded under this alternative would be subject to uses other than wilderness, however, minimization of impacts to the contiguous wilderness area would be a primary management concern. Wilderness values, such as naturalness, on the 968 acres which are recommended as nonsuitable could be lost through future activities such as highway expansion and off-road vehicle use.

Conclusion: High quality wilderness values would be maintained on the 24,344 acres recommended as suitable. Marginal quality wilderness values would be lost on the 968 acres recommended as nonsuitable.

2. Impacts on Livestock Grazing Use Levels

Impacts are not considered to be significant since most existing vehicle trails would remain open to motorized access, except for a trail 0.2 miles long that extends west from the lava flow edge to the large kipuka in Little Black Peak WSA. Revegetation of 3.8 miles of trails would not occur under this alternative.

Conclusion: Impacts to livestock operators desiring to use vehicles for access would not be significant since only 0.2 miles of vehicle way would be closed to use. There would be no significant impact to livestock grazing use levels.

C. NO WILDERNESS ALTERNATIVE

This alternative describes the impacts to wilderness values and other resources that would occur if the WSAs are not designated as wilderness and existing resource uses are continued. The only constraints that would apply to resource utilization would be physical and economic limitations. There would be no special form of management to conserve or protect resource values except for actions mandated by law, policy, rule or regulation. Future surface disturbing activities, such as material sales and exploration on mineral leases, would probably be confined to the periphery of the lava flow as they have in the past. The rugged terrain in this landform would continue to present a natural barrier to most uses.

This alternative would not affect proposed expansion of U.S. Highway 380 and livestock supervision or facility maintenance activities. For this reason, there are no impact discussions in the following analysis.

1. Impacts on Wilderness Values

Under the no action alternative there would be no long-term special protection accorded to wilderness values.

Wilderness values in less rugged terrain on the borders of the WSAs are more susceptible to change and could potentially be lost due to the impact of future land alterations. Road development, motorized vehicle use, material sales and mineral exploration within one eighth mile of the periphery of the lava flow and on the accessible kipuka would cause localized degradation of wilderness values on approximately 3,750 acres. Expansion of U. S. Highway 380 would result in the loss of wilderness values on an additional 54 acres. During the foreseeable future, wilderness values in the central part of the lava flow are expected to remain unaffected by man's activities because of the protective topography.

Potential construction of road access to state lands would be regulated only to prevent unnecessary and undue degradation of public lands. Impacts to wilderness values would not be considered when allowing this use and there would be a greater effect upon the wilderness resource under this alternative. It is estimated that road construction would affect a 100 foot wide corridor of land which would result in the loss of wilderness values on about 14 acres. Over the long-term, impacts to wilderness values would be significant because of this alternative.

Conclusion: The lack of Congressional protection would in the long-term result in degradation and eventual loss of wilderness values on approximately 3,818 acres.

VI. CONSULTATION AND COORDINATION

A. Public Involvement Overview

This WAR was prepared after considering information and comments provided by the public. Public views concerning BLM's wilderness recommendation for these WSAs will continue to be requested and considered during later stages of the wilderness study process.

Public comments regarding the identification and selection of these areas for wilderness study were requested in 1979 and 1980 during the inventory phase of BLM's wilderness review program. However, unsolicited public interest in this area was expressed prior to the start of inventory work. A comment in a nationally distributed 1978 magazine article recommended the Carrizozo Malpais as a candidate for wilderness designation since it was notable as one of the most recent lava flows in the western United States.

During the public comment period on wilderness study area proposals, individual comments and petitions concerning both WSAs were received by BLM. Most of the individual comments and all petitions favored wilderness study for these areas. Most people indicated that wilderness characteristics were present, although some people did not offer supporting reasons for their recommendation. Comments opposing wilderness study cited as supporting reasons: the presence of range, road and mining impacts; noise impacts from traffic on nearby highways and aircraft overhead; and potential problems with access to state land.

Public comments received since completion of the inventory phase described existing and potential resource uses. One comment opposed wilderness designation due to mineral resource conflicts. Local, state and federal agencies have been requested to identify problems that wilderness designation would have with their plans, policies or regulations. The resource use issues identified by the public at that time were surrounded state trust land, highway use and military training use of airspace.

During the public comment period on the Draft EA a total of 40 public comments were received on the Carrizozo Lava Flow and Little Black Peak WSAs. 27 of the 40 commentators supported wilderness designation of the WSAs and most respondents agreed with the Amended Boundary preferred alternative. The remainder of supportive comments preferred the All Wilderness alternative, offered no opinion on wilderness boundaries, or proposed acreage increases or decreases. 5 commentators opposed wilderness designation, primarily on the basis of potential mineral resource conflicts. 8 commentators did not offer opinions for or against wilderness designation or made diverse technical comments on specific parts of the BLM assessment (see Roswell District, Wilderness Final Environmental Assessment, August 1984 for additional detail).

During the public comment period on the New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement (BLM 1985), a total of six comments were made on these WSAs. Five of six commentators supported wilderness designation of the WSAs for various reasons, and one mineral commentator opposed wilderness because they believed there were potential conflicts and higher favorability for hydrocarbon development than the BLM assessment. BLM previously had analyzed the same mineral data that was used as the basis for this opposing comment. Three supporting comments proposed a wilderness area greater than contained in the WSAs and two commentators supported BLM's proposed action.

Two commentators questioned the mineral resource information which BLM used to evaluate potential resource uses and impacts.

One commentator requested deletion of a mineralized area with moderate favorability for silver/copper/gold in the southern part of Carrizozo Lava Flow WSA. No data was provided to support that rating and the location was not described. The GEM assessment assigned a low favorability for copper/silver/gold mineralization in both WSAs. Due to the low favorability ratings it was determined by BLM that boundary modifications were not needed to resolve potential resource conflicts. The same commentator also requested a boundary adjustment to exclude 22 mining claims and the mineral exploration area in Little Black Peak WSA. Previous requests to exclude the mining claim area were considered earlier in the wilderness study process, but boundary modifications to eliminate potential conflicts with a resource having low favorability were not determined to be warranted. Also, the impacts of previous mineral exploration in this area were determined, during wilderness inventory, to be substantially unnoticeable and did not significantly affect naturalness of the WSA.

The other mineral commentator disagreed with mineral favorability ratings for oil and gas resources in Little Black Peak WSA. The GEM assessment assigned a low favorability rating based on indirect evidence. It was noted that more exploration may be necessary to determine if there is oil and gas present. The mineral commentator had previously rated this WSA as having high intermediate favorability for oil and gas based upon the presence of a "number" of geologic characteristics. The GEM assessment considered the geologic environment, inferred geologic processes, and reported mineral occurrences or production records prior to arriving at a favorability rating. Due to the absence of extensive subsurface exploration and lack of seismic information the true potential for oil and gas resources cannot be accurately predicted at this time. Since mineral favorability ratings are determined using available information, which is subject to varying interpretations, BLM will consider additional mineral resource information prior to making a final wilderness suitability recommendation for these WSAs. A joint mineral survey is being conducted on these WSAs by the U.S. Geological Survey and Bureau of Mines. The results of this survey will be considered by the BLM Director in arriving at recommendations on wilderness suitability. Any additional mineral resource information that the public or minerals industry may be able to provide concerning these WSAs will be accepted and considered by BLM during later phases of the study process.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Little Black Peak and Carrizozo Lava Flow WSAs by twelve commentators. Comments on this WAR which required a response are discussed and responded to in this section.

Name(s): Judith Bishop/Jim Fish, New Mexico BLM Wilderness Coalition

Comment: "The BLM has recommended the majority of both WSAs for wilderness designation and has proposed acquiring most of the key State and private lands near the areas. Their amended boundary, however, unnecessarily leaves out a number of acres and restricts the diversity of the potential wilderness. Except for the 54 acres deleted to allow for future expansion of US 380, the Coalition proposal encompasses the original WSA boundary, the adjacent State and private land within the roadless area, and the area on the southwest that was in the original inventory unit.

One of the areas dropped by the BLM is a narrow 95-acre finger of lava which is bordered by State land on one side and by private land on the other. The rationale for this action is that solitude could be diminished in this area if adjacent lands were converted to nonwilderness uses. This position is somewhat of a contradiction in that the BLM has recommended acquisition of both the State and the private land. Given that the economic potential of this land is poor, the feasibility of obtaining it should be good, especially the State section which would completely connect the finger of lava to the rest of the WSA.

Most of the land eliminated by the amended boundary was dropped because it did not contain lava. The BLM maintains that these areas of rolling hills, grasslands, and fingers into the flow have "lower quality wilderness characteristics" and proposes the edge of the lava as the wilderness boundary. The Coalition strongly disagrees with the proposed elimination of the non-lava areas based on this type of rationale."

Response: The BLM has not proposed acquisition of State and private lands as part of the Amended Boundary Alternative suitability recommendation for these WSAs. Acquisition of non-Federal lands was identified as a measure to enhance manageability, and the wilderness values of solitude and primitive, unconfined recreation. If BLM acquired these non-Federal lands at some future date and determined they possessed wilderness values, BLM would conduct a formal study and make a recommendation either in favor of or opposed to their wilderness designation.

The BLM concurs with NMWC's rationale for not dropping the 95 acre area of lava flow located in section 15, T. 7 S., R. 10 E., based upon the unlikelihood of incompatible activities occurring on contiguous lands. Therefore, the Amended Boundary Alternative for Little Black Peak WSA has been enlarged to include this 95 acres.

No. 0100/0105 (concluded)

It is BLM's position that the modified Amended Boundary Alternative recommends as suitable for wilderness that portion of the WSAs which have the highest quality wilderness values. Diversity of the suitability recommendation was an important study consideration. High quality non-lava flow areas, namely the 192 acre kipuka in Little Black Peak WSA and about 839 acres of plains/limestone hills on the west side of Carrizozo Lava Flow WSA, are included in the suitable recommendation. The focal point for this wilderness proposal is the lava flow landform and high quality environs. It was not considered reasonable to recommend wilderness designation for small areas of alluvial plain along the lava flow edge because of their poor opportunities for solitude, primitive and unconfined recreation, manageability problems associated with vehicular use, and presence of intrusions. Many of the known intrusions (3.8 miles of vehicle ways, 1/2 mile of fence) are located on these areas proposed as nonsuitable. During the wilderness inventory process, other areas with alluvial plains were deleted from final wilderness study area recommendations for these WSAs.

NMWC has proposed the addition of approximately 10,341 acres of BLM lands that were eliminated from the wilderness review program in the November 1980 New Mexico Wilderness Study Area Decisions. This acreage was eliminated from wilderness review because it was determined to contain roads, intrusions, and lacked outstanding opportunities for solitude and primitive and unconfined recreation.

* * * * *

No. 0681

Name(s): Leo Griego, New Mexico Natural Resources Department

Comment: "The Little Black Peak/Carrizozo Lava Flow WSA (NM-060-109/110) surrounds the Valley of Fires State Park. The document recommends this area for wilderness but designates an amended boundary for adoption. Designation of the entire study area would be preferable because it would augment wilderness opportunities adjacent to a designated state park."

Response: Designation of the entire study area as proposed by NMNRD would cause a significant impact to expansion of U. S. Highway 380. It is the BLM's position that the Amended Boundary Alternative, as modified in response to comment No. 0100/0105, recommends as suitable for wilderness the portion of the WSAs with the highest quality wilderness values. For additional information, please refer to response to comment No. 0100/0105.

APPENDIX 46
MUDGETTS WSA
(NM-060-819/819A)

SECTION 1

GENERAL DESCRIPTION

LOCATION

The Mudgetts Wilderness Study Area (WSA) is located in the Carlsbad Resource Area of the Roswell District. It lies in Eddy County approximately 19 air miles southwest of Carlsbad, New Mexico. The southern boundary of the WSA is contiguous with Carlsbad Caverns National Park. The remainder of the WSA is delineated by a combination of roads and private or state property boundaries (see Map 1-1 at the end of this section).

The U.S. Geological Survey topographic maps that cover the WSA are the Serpentine Bends and Carlsbad Caverns 7.5 minute quadrangles.

CLIMATE AND TOPOGRAPHY

Climate in the vicinity of Mudgetts WSA is semi-arid continental with a distinct summer rainfall maxima. Summers are hot and winters mild. Average period between killing frosts is 220 days from March to November. Average annual precipitation is approximately 14 inches with 80 percent falling during the six-month period from May to October. Average snowfall is 3 to 4 inches per year, although as much as 6 inches may fall in a 24-hour period during unusually heavy winter storms. Summer days are hot with a high temperature on most days from mid-May to mid-September exceeding 90 degrees.

Mudgetts WSA is located on the northeastern edge of Guadalupe Ridge, which is a major eastern spur of the Guadalupe Mountains. Elevations range from 4,000 feet to 4,900 feet above sea level. Steeply rolling hills comprise most of the area, with steep cliffs on the western edge which drop as much as



ROLLING LIMESTONE HILLS CHARACTERIZE THE
NORTHERN AND EASTERN PORTIONS OF MUDGETTS WSA

500 feet to the floor of the Serpentine Bends of Dark Canyon. Dark Canyon and Crooked Creek drain the WSA. Both of these drainages carry water only as flash floods following heavy rains.

LAND STATUS

The 2,941 acre WSA is entirely Federal land administered by the BLM. The WSA boundary was drawn to exclude state and private holdings. The subsurface mineral estate is entirely in Federal ownership. Mudgetts WSA is contiguous with a 3,084 acre area in Carlsbad Caverns National Park which was designated as wilderness by Congress in November 1978.

ACCESS

The Mudgetts WSA can be reached by two maintained roads leading from Eddy County Road 408. The Dark Canyon road crosses state and private land on which there is no legal public access. The second road, to Guadalupe Ridge, also crosses state land with no legal public access available. An alternate route follows a four-wheel drive road for a distance of 12 miles from U.S. Highway 62-180 which also crosses private land.

DESCRIPTION OF THE ISSUES, PROPOSED ACTION, AND ALTERNATIVES

The Summary of Scoping table lists alternatives and issues considered for analysis as well as any other alternatives and issues considered but not selected for detailed analysis in this Wilderness Analysis Report (WAR). These alternatives and issues were raised by BLM and the public during the wilderness inventory and preparation of the District's Environmental Assessments (EAs). While certain resource uses were not selected as issues for detailed analysis, resources such as wildlife, visual resource values, recreational use, soils and vegetation are explained in the document when they are affected by actions relating to the key issues selected for detailed analysis.

Table 1 describes actions associated with the proposed action and alternatives for the WSA. The No Wilderness Alternative was developed as the proposed action. At the time BLM identified the WSA, many of the present impacts associated with valid existing rights such as oil and gas exploration and production did not exist. Specifically, an increase from one to five natural gas wells have been developed since the WSA was identified, with three of the four new wells in their production phase and the fourth well presently shut in, awaiting pipeline connection. Two of the four wells encroach into the WSA, with one of these developed on a pre-FLPMA "grandfathered" lease. A total of three "grandfathered" leases affect 1,131 acres of the WSA. Three additional gas wells could be developed within the WSA boundary on these three "grandfathered" leases.

The area is rated as high potential for oil and gas. Producing natural gas wells proximate to the WSA show high production rates recorded during 1985. In light of current and anticipated impacts of natural gas development, it appears that the wilderness values which the WSA originally possessed have been and will likely continue in the foreseeable future to be degraded extensively or lost.

Mudgetts WSA

Existing mineral interest and development in the area indicates that providing for fluid minerals development through a prescription of multiple resource management uses would be the best and most beneficial use of the WSA. Implementation of the No Wilderness Alternative (Proposed Action) would be followed by implementing management decisions which affect the area of the WSA as addressed in the Carlsbad Resource Area Final Resource Management Plan/Environmental Impact Statement (CRA Final RMP/EIS), published in September 1986. At the time of this writing, a decision would provide for special management of that portion of the WSA which is presently least impacted by oil and gas development. Approximately 1,100 acres of the area currently in the WSA would be managed as an Area of Critical Environmental Concern (ACEC). This ACEC would be designated within the 1,480 acre Dark Canyon Special Management Area. Management prescriptions would, in part, allow for restricted surface disturbing activities associated with fluid mineral development in a portion of the ACEC, while still providing for protection of other important resource values in the area. Additional details are provided in Table 1 of this report and in the CRA Final RMP/EIS document.

The significant environmental impacts by alternative for each of the environmental issues are summarized in Table 2.

MUDGETTS WSA (NM-060-819)

Proposed Action—No Wilderness

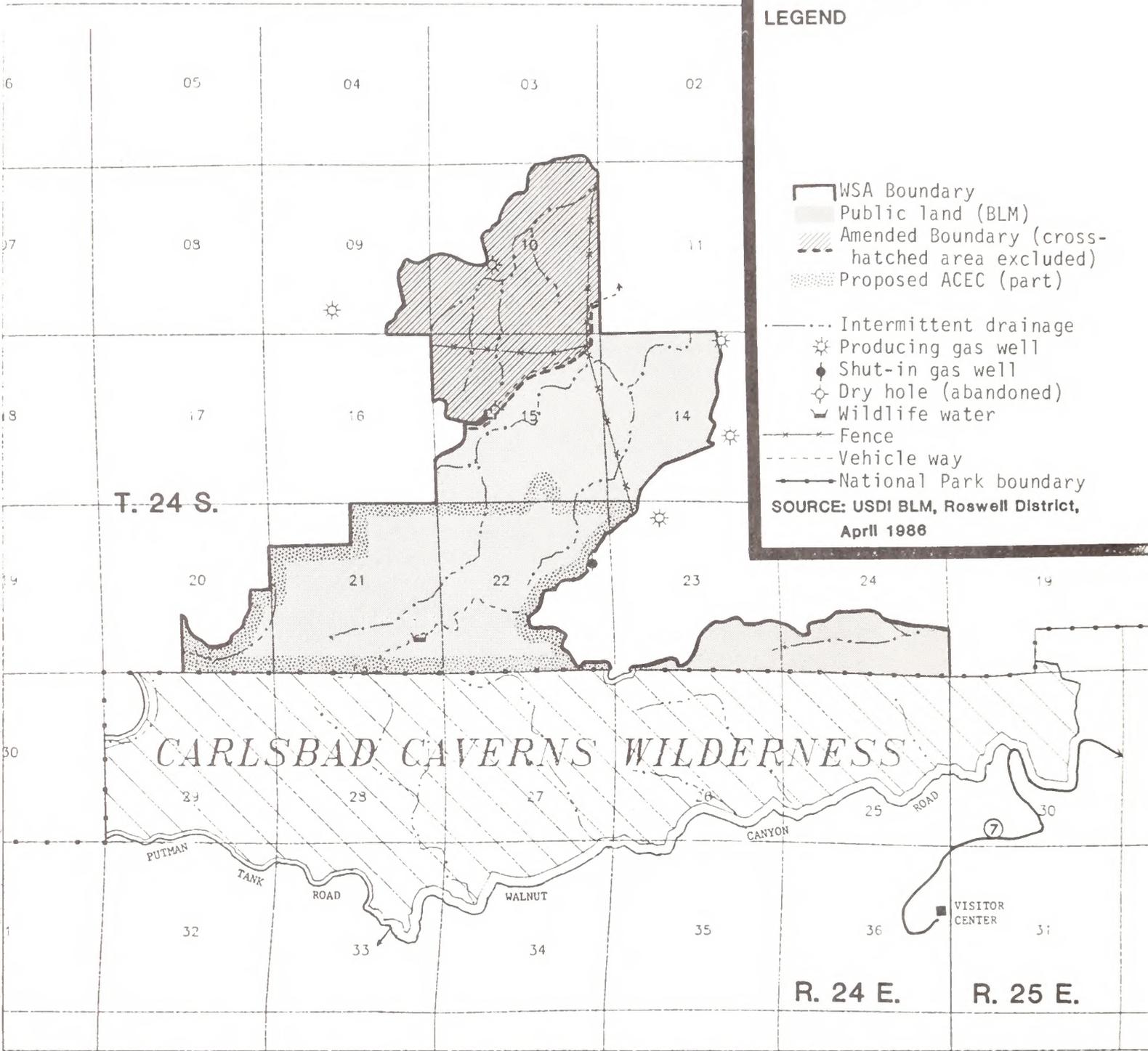
MAP 1-1

LEGEND

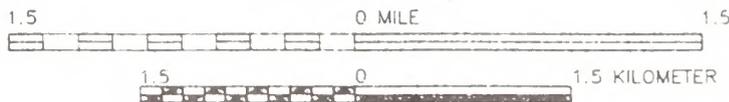
- WSA Boundary
- Public land (BLM)
- Amended Boundary (cross-hatched area excluded)
- Proposed ACEC (part)

- Intermittent drainage
- Producing gas well
- Shut-in gas well
- Dry hole (abandoned)
- Wildlife water
- Fence
- Vehicle way
- National Park boundary

SOURCE: USDI BLM, Roswell District,
April 1986



SCALE 1: 50000



SUMMARY OF SCOPING

Alternatives Considered and Set Aside	Reason for Not Including this Alternative
None for this WSA	
Issues Raised and Set Aside	Reason for Not Conducting a Detailed Analysis
Impacts on the following Federal listed threatened and endangered (T&E) species—Lee pincushion cactus, <u>Coryphantha sneedii</u> var. <u>leei</u> , and Sneed pincushion cactus, <u>Coryphantha sneedii</u> var. <u>sneedii</u> .	The U. S. Fish and Wildlife Service has concurred with BLM's finding of no effect on species Federally listed or proposed for listing as threatened or endangered. An analysis of potential impacts to Threatened or Endangered species would be required for any proposed surface disturbing activities.
Impacts on cultural sites.	Cultural resources were not selected for detailed analysis because there are few sites and a detailed site-analysis is required prior to approving any proposed surface disturbing activities.
Alternatives Selected for Detailed Analysis	Reasons
All Wilderness	2,941 acres were identified during the inventory as having wilderness values.
Amended Boundary	This boundary configuration was identified to eliminate some imprints of man's work and to reduce existing and potential impacts from pre-FLPMA "grandfathered" oil and gas leases.
No Wilderness (Proposed Action)	The No Action Alternative is required by NEPA.
Issues Selected for Detailed Analysis	Reasons
Impacts on wilderness values	The existing and future quality of the area's wilderness values is an issue.
Impacts on potential energy and mineral development	Five natural gas wells have been drilled on the periphery of the WSA, with four showing high production quantities. Three pre-FLPMA "grandfathered" oil and gas leases, being held by production affect 1,131 surface acres (38%) of the WSA. The entire WSA is rated as high potential for oil and gas production.
Impacts on livestock grazing use levels	This is an issue of statewide interest.
Impacts on caves and other sensitive resources	Four important, intensively managed caves and high visual resource values are associated with the WSA.

TABLE 1

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	Amended Boundary	No Wilderness (Proposed Action)
<p>MANAGE TO MAINTAIN AND ENHANCE EXISTING WILDERNESS VALUES ON 2,941 ACRES AS WILDERNESS. The following Actions would be taken:</p>	<p>MANAGE TO MAINTAIN AND ENHANCE EXISTING WILDERNESS VALUES ON 2,230 ACRES. The following actions would be taken:</p>	<p>MANAGE 2,941 ACRES WITHOUT WILDERNESS CONSTRAINTS. The following actions would be taken:</p>
<p>-In the northern third of the area, exploration and development of three pre-FLPMA oil and gas leases would be allowed on 1,131 acres. This would involve surface disturbance to provide construction for a minimum of 3 drilling pads, production facilities and an estimated 1-2 miles of access road.</p>	<p>-Exploration and development of one pre-FLPMA oil and gas lease would be allowed on 420 acres of the WSA. This would involve surface disturbance to allow construction of two drilling pads, production facilities, and an estimated 1/2 mile length of access road.</p>	<p>-About 1,100 acres of the WSA would be managed as part of the 1,480 acre Dark Canyon Area of Critical Environmental Concern. The designation is part of the proposed plan of the Carlsbad Resource Area Final Resource Management Plan/Environmental Impact Statement (RMP/EIS). Proposed management prescriptions affecting the 1,100 acres include: limit vehicular use to designated routes, close to mineral material sales, protect the 4 known caves, VRM Class II and III designation, no surface occupancy stipulation on 370 acres and seasonal drilling restriction on 730 acres of new oil and gas leases. Seismic operations which could damage fragile cave resources would not be allowed in the no surface occupancy area. No new oil and gas well drilling would be allowed within 300 feet of any significant cave feature.</p>
<p>-Attempts would be made to require directional drilling or unorthodox drill hole placement for any remaining pre-FLPMA oil and gas lease drilling operations on 1,131 acres to avoid undue surface disturbances and undue encroachment into the area.</p>	<p>-Attempts would be made to require directional drilling or unorthodox drill hole placement for the one pre-FLPMA oil and gas lease drilling operation on 420 acres to avoid undue surface disturbances and undue encroachment into the area.</p>	<p>-Per the RMP/EIS, the remaining 1,841 acres of the area would be subject to no special restrictions and managed in accordance with existing laws, policy, guidance and regulations. VRM Class III objectives would apply, the area would be designated open to vehicular use, and oil and gas development could occur with a special stipulation. This stipulation would prevent drilling within 300 feet and circulation pit placement within 600 feet of any significant cave feature.</p>
<p>-Exploration and development would not be allowed on 1,810 acres of post-FLPMA oil and gas leases. This high potential acreage would be closed to future energy mineral leasing.</p>	<p>-Exploration and development would not be allowed on 1,756 acres of post-FLPMA oil and gas leases. This high potential acreage would be closed to future mineral leasing.</p>	<p>Current livestock grazing levels of approximately 14 cattle per section per year would continue.</p>
<p>-Upon completion of authorized fluid mineral production any facilities, pads and roads within the area would be rehabilitated.</p>	<p>-Upon completion of authorized fluid mineral production any facilities, pads and roads within the area would be rehabilitated.</p>	
<p>-Current livestock grazing levels of approximately 14 cattle per section per year would continue.</p>	<p>-Current livestock grazing levels of approximately 14 cattle per section per year would continue.</p>	
<p>-Close 3 miles of vehicle ways which currently receive low use (less than 50 vehicles per year).</p>		

TABLE 1 (Con't.)

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All Wilderness	Amended Boundary	No Wilderness (Proposed Action)
<p>-Require maintenance of 5 miles of fence, 2 cave gates and the wildlife waterer to occur without vehicle use unless no alternative exists. It is assumed that no more than 1 permit for vehicle use would be issued per year.</p>	<p>- Close about 2 miles of vehicular ways which currently receive low use (less than 50 vehicles per year).</p> <p>-Require maintenance of 1 mile of fence, 2 cave gates and the wildlife waterer to occur without vehicle use.</p> <p>MANAGE 711 ACRES WITHOUT WILDERNESS PROTECTION. The following actions would be taken:</p> <p>- The 711 acre area is not within the Dark Canyon Area of Critical Environmental Concern. It would be managed subject to no special restrictions as described in the No Wilderness Alternative.</p>	

TABLE 2
SUMMARY OF SIGNIFICANT IMPACTS

MAJOR ENVIRONMENTAL ISSUES			
Alternative by WSA (Acreage)	Impacts on Existing & Potential Mineral Development	Impacts on Wilderness Values	Impacts on Caves and Other Sensitive Resources
All Wilderness (2,941 acres)	<p>-Pre-FLPWA "grandfathered" oil and gas lease development rights would be allowed to continue on 1,131 acres in the area. Three producing gas wells could be developed within the area.</p> <p>Exploration and development would not be allowed on 1, 810 acres of post-FLPWA oil and gas leases. Loss of three leases not being developed would be significant for specific leases, but insignificant relative to total regional natural gas production.</p>	<p>-Pre-FLPWA "grandfathered" oil and gas lease development of 3 more gas wells would probably result in a loss of vegetation on up to 20 acres of surface. Impacts on solitude and unconfined recreation would be significant in this portion. Wilderness values would be retained in the southernmost portion of the WSA.</p> <p>-Special features of the area, such as the caves, and high visual values would be adequately protected.</p> <p>-No significant impact on wilderness recreation demands.</p>	<p>-Caves and all other special features such as high visual values would be preserved.</p>
Amended Boundary (2,230 acres)	<p>-Two natural gas wells would be allowed to be developed on one pre-FLPWA "grandfathered" oil and gas lease.</p> <p>-Impacts on post-FLPWA oil and gas leases would be the same as stated under the All Wilderness Alternative, except for a reduction of 70 acres to 1,756 acres being affected.</p>	<p>-Development of two natural gas wells on one pre-FLPWA "grandfathered" oil and gas lease affecting 420 acres of the WSA's northern portion would be allowed. Impacts would be near the same as identified in the All Wilderness Alternative.</p>	<p>-Four known caves would be provided maximum protection. Impacts on other sensitive resources would be low.</p>
No Wilderness (2,941 acres)	<p>-No significant impact</p>	<p>-Most impacts to special features would be low with protection provided by ACEC management.</p> <p>-Reduced opportunities for solitude and primitive and unconfined recreation. Quality of recreation experience diminished.</p> <p>Reduced naturalness within the area.</p>	<p>-Long-term impacts to caves and high quality visual resources significant due to possible lack of long term protective management.</p>

SECTION 2

EXISTING RESOURCES AND ENVIRONMENT

GEOLOGY

Mudgetts Wilderness Study Area (WSA) is located along the uplifted Guadalupe Ridge of the Guadalupe Mountains, which marks the boundary of the Delaware Basin to the south and the Back Reef Area to the north and west. These areas are separated by the Permian Reef Complex that underlies the WSA. Surface exposures of the Tansill, Yates, and Seven Rivers formations of the Permian Artesia Group include predominantly gray to light pink steep slope and cliff forming dolomitic rock. Several tan to buff colored siltstone beds generally less than five feet in thickness are also present. Scattered occurrences of limonite, oolites, and pisolites are present as float and in several cliff forming beds of the Yates. The rock outcrops generally dip to the southeast at less than ten degrees.

Over a hundred limestone and dolomitic caves are known to exist throughout the Guadalupe Mountains. Four known caves are located within the WSA with the probability that other undiscovered caves exist within its boundaries. The known caves in the WSA contain significant geological, mineralogical, and biological features.

Recent discoveries in Lechuguilla Cave, in the National Park Service Wilderness Area, have made it the deepest and second longest known cave in the Guadalupe Mountains. Mapping has been completed on 3 1/2 miles of passages to a depth of 1,058 feet. The passage is within 1,000 feet of the BLM boundary and less than a mile from Big Man Hole Cave. These are indications and possibilities that the two caves connect.

ENERGY AND MINERALS

There are deposits of caliche material in the WSA but the material is widespread throughout the region. Leaseable minerals in the WSA include bat guano and fluid minerals (oil and gas). In the early 1900s, Mudgetts Cave was commercially mined for bat guano which was used as a fertilizer in citrus orchards of California. No commercial quantities of bat guano deposits remain in the cave.

Natural gas deposits are known to exist in the Pennsylvania Morrow sands adjacent to and within the WSA. This natural gas reservoir is thought to run in a northeast-southwest direction with the thickest portion roughly following the center of the WSA. Oil reserves have been encountered in the Pennsylvanian Canyon lime above the gas bearing Morrow near the WSA.

WATER

The area receives approximately 14 inches of annual precipitation, occurring mostly during the summer months. There are no perennial streams or surface water in the area. One small spring, Stetson Seep, lies on the boundary of the WSA. One "inverted umbrella" wildlife watering system is maintained by the BLM inside the WSA.

SOILS

According to the USDA Soil Conservation Service's Soil Survey for Eddy County, only "limestone rock land-Ector" soil association is found in the WSA. This association is characterized as rock land and very shallow, stony and rocky, loamy soils over limestone, on hills and mountains. It consists of nearly level to very steep, stony soils and of rock land, slides, cliffs and escarpments.

Soils found in the WSA are Ector stony loam, Ector extremely rocky loam, and limestone rock land. Under the new classification, these are loamy skeletal, carbonatic thermic Lithic Calciustolls.

VEGETATION

Chihuahuan Desert vegetation predominates in the area. Vegetation includes soaptree yucca with some sotol, cholla, ocotilla, juniper, lechuguilla, sacahuista, broom snakeweed, blue grama, black grama, and three awns. Scattered Texas madrone trees are found throughout the WSA, usually near draws. Lower elevations are moderately grazed, with an excess of broom snakeweed. Higher elevations have not been as heavily grazed and therefore have more forage than the lower elevations.

No forest resources exist in the WSA. Any juniper or other plant large enough to be considered a tree would have far more value for wildlife habitat than for fuelwood or forest products.

Rare Plant Species

Two Federal listed threatened or endangered plants, Lee pincushion cacti (threatened) and Sneeds pincushion cacti (endangered) have been identified in similar habitats adjacent to the WSA. Also, three state endangered plants probably occur in the WSA on limestone slopes or ridges.



TYPICAL CHIHUAHUAN DESERT VEGETATION IN
MUDGETTS WSA

WILDLIFE

Rare Animal Species

The fauna of the area consist of a large variety of mammals, birds, reptiles, amphibians, and smaller vertebrate and nonvertebrate species.

Five state listed endangered animal species can be expected in the area. Caves, burrows, rock bluffs, and talus slopes are preferred habitat for the mottled rock rattlesnake, trans Pecos rat snake, and eastern barking frog. Dense brushy vegetation and ephemeral pools found in Crooked Creek Canyon provide good habitat for varied buntings and New Mexico ramshorn snails. Cliffs along Dark Canyon and west of Turkey Spring are considered to be suitable as eyrie habitat for peregrine falcons but none have been located to date.

VISUAL RESOURCES

The Mudgetts WSA provides a variety of scenic values, with the majority of the area inventoried as medium scenic quality (Scenic Quality B), and the remainder as high scenic quality (Scenic Quality A). The area is presently being managed under an interim visual resource management (VRM) Class II while the WSA is under wilderness review.

The area is characterized by steeply rolling hills with scattered sotol, agave, and juniper vegetation. Pronounced limestone benches, or "catsteps" follow the contours. The deep canyons, particularly Serpentine Bends of Dark Canyon, exhibit high limestone cliffs and graceful horseshoe bends of the stream course.



THE SERPENTINE BENDS OF DARK CANYON
ARE THE WSA'S MOST SCENIC FEATURE

CULTURAL RESOURCES

The nature and extent of cultural resource values in the WSA is not known. Records indicate that at least two ring middens occur in the WSA. The portion of Carlsbad Caverns National Park immediately south of the WSA has been examined more thoroughly by archaeologists and has yielded evidence of numerous ring middens. Since this portion of the park is situated in a similar geographical and environmental setting to that of the WSA, it can be assumed that the frequency of ring middens in the WSA is also high. Additional cultural resource inventory in the WSA would be necessary to substantiate this assumption.

Ring middens are suspected to be the result of preparation of various plant resources including Agave lechuguilla. Radiocarbon dating indicates that they were utilized primarily by peoples of the Jornada Branch of the Mogollon approximately 1,000 years ago.

Mudgetts Cave was mined for bat guano during the early part of the 20th century. At that time guano was used as a fertilizer in the developing citrus orchards of California. Several artifacts from the guano mining process remain in and near Mudgetts Cave, providing information on the everyday operations of this once important industry.

AIR QUALITY

The air quality of the WSA is considered to be excellent. With the prevailing southwest winds of the area, a possible source of man-caused pollution is the metropolitan area of El Paso, Texas, and Ciudad Juarez, Mexico. Significant amounts of wind-borne dust and soil in the air occur during windy periods, particularly during the spring months.

The WSA is contiguous with Carlsbad Caverns National Park, which is managed as a mandatory Class I Federal Air Quality Area. The Clean Air Act gives Federal agencies "an affirmative responsibility" to protect visibility values of a Federal Class I Area. The goal of the Class I designation is to remedy any existing pollution and prevent future pollution that may affect the area. In conjunction with this goal, the national park maintains an air quality monitoring station in cooperation with the Environmental Protection Agency. This station is located near the Carlsbad Caverns National Park Visitor Center, located approximately 3 miles southeast of the WSA.

SECTION 3

EXISTING AND POTENTIAL USES

MINERAL DEVELOPMENT

Table 3 shows the mineral resources potential in the WSA. No material sales of caliche or crushed stone are occurring within the WSA. Caliche is primarily used for building roads and oil and gas pads. No demand for caliche or crushed stone in the WSA is expected because existing caliche pits and crushed stone sites near the WSA are within reasonable hauling distance of any anticipated need in the area.

TABLE 3

MINERAL POTENTIAL - MUDGETTS WSA

Commodity	Associated Environment	Mineral Potential	Acreage
Oil and Gas	Permian Basin sedimentary rocks of Pennsylvanian (Morrow Formation) to Permian (Canyon Formation) age. Generally, lensing stratigraphic traps in sandstones associated with near shore marine environments.	High	2,941
Caliche	Surficial deposits of clay, silt, sand, soil, gravel, pebbles, cobbles, rock fragments, rubble, or other loosely consolidated materials, that have been more or less firmly cemented together by ground water enriched with calcium carbonate.	Low	NC ¹
Crushed Stone	Marine sedimentary rocks (limestone and dolomite) of Permian age (Tansill and Yates Formations).	Low	NC ¹

¹ Acreages on areas of low potential were not calculated.

The WSA is surrounded by natural gas production and most of the WSA (except for sections 20 and 21, T. 24 S., R. 24 E.) is leased for oil and gas. Tables 4 and 5 illustrate leases and existing wells in and near the WSA. The Gulf Oil Corporation, Marathon Oil Company, and Sinclair Oil and Gas Company leases in Sections 9, 10, and 15 within the Lechuguilla Canyon Oil and Gas Unit which affects the WSA were acquired and unitized prior to FLPMA; therefore, the leaseholders right to develop the leases is "grandfathered" under BLM's Wilderness Interim Management Policy (IMP). Because of this right, the Lechuguilla Canyon No. 8 well under lease No. NM 491 was allowed to be drilled within the WSA boundary after the WSA was

MUDGETTS WSA (NM-060-819)

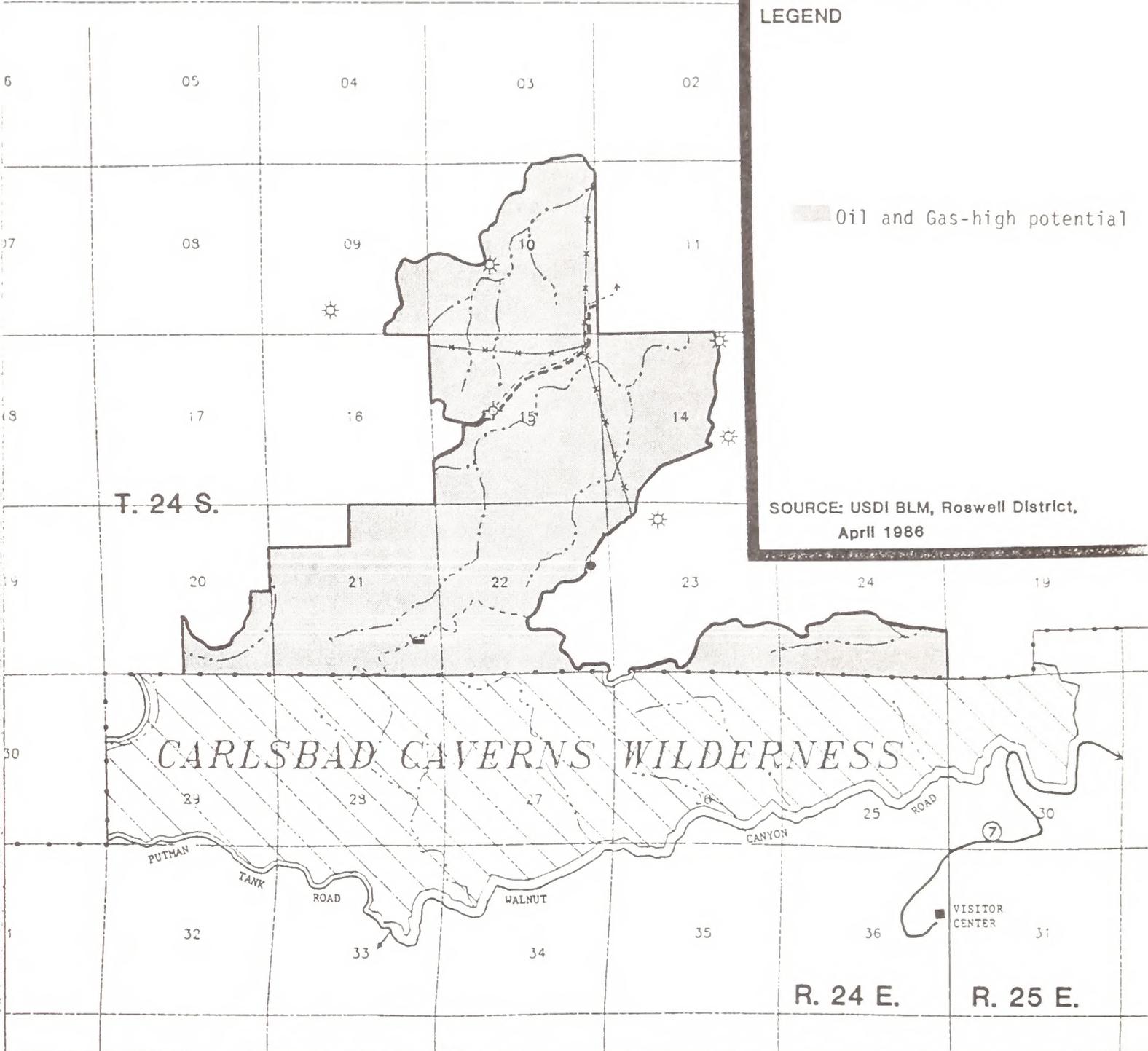
Proposed Action—No Wilderness

MAP 3-1

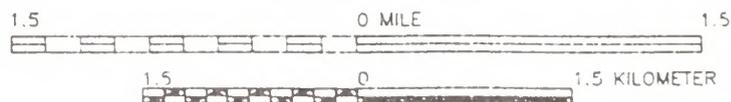
LEGEND

 Oil and Gas-high potential

SOURCE: USDI BLM, Roswell District,
April 1986



SCALE 1:50000



identified. The unit participants have the right to continue drilling within the unit boundary, part of which includes 1,131 acres inside the WSA.

It has been determined that the W. A. Moncrief, Jr., et. al., leases are not "grandfathered" under IMP. Prior to June 2, 1983, W. A. Moncrief, Jr., et. al. opted to drill in "unorthodox" locations immediately outside the WSA boundary (An "orthodox" location is one that is within New Mexico Oil Conservation Division guidelines for well spacing). Moncrief drilled two gas wells adjacent to the WSA and one near the WSA in unorthodox locations.

TABLE 4

OIL AND GAS LEASES AFFECTING THE WSA

Location T24S, R24E	Lease Number	Leaseholder	Production or Expiration
Section 9 ¹	NM-330	Gulf Oil Corp.	Held by Production
Section 10 ¹	NM-491	Sinclair Oil & Gas	Held by Production
Section 14	NM-29202	El Paso Natural Gas	Held by Production
Section 15 ¹	NM-492	Marathon Oil Company	Held by Production through Unitization
Section 22	NM-29203	W. A. Moncrief W. A. Moncrief, Jr. Robert E. Hibbert G. R. Scott	Held by Production
Sections 23, 24	NM-29414-A	W. A. Moncrief, Jr. G. R. Scott	Held by Production

¹ Leases that are part of the Lechuguilla Canyon Unit which are inside the WSA and have "grandfather" status (see Map 3-2).

In December 1982 the Secretary of Interior removed from wilderness study all WSAs under 5,000 acres in size. As a result of this action, development could occur within those former WSAs, which included Mudgetts WSA. W. A. Moncrief, Jr., et. al. filed an Application for Permit to Drill (APD) for a fourth gas well, Guadalupe Federal No. 1, within the north half of Section 22, T24S, R24E, in February 1983. To avoid undue environmental damage at the well pad location, the BLM authorized the pad to be located on the WSA boundary, which also required the pad to encroach into the former WSA. In response to litigation by Sierra Club et. al., a notice of impending

MUDGETTS WSA (NM-060-819)

Proposed Action—No Wilderness

MAP 3-2

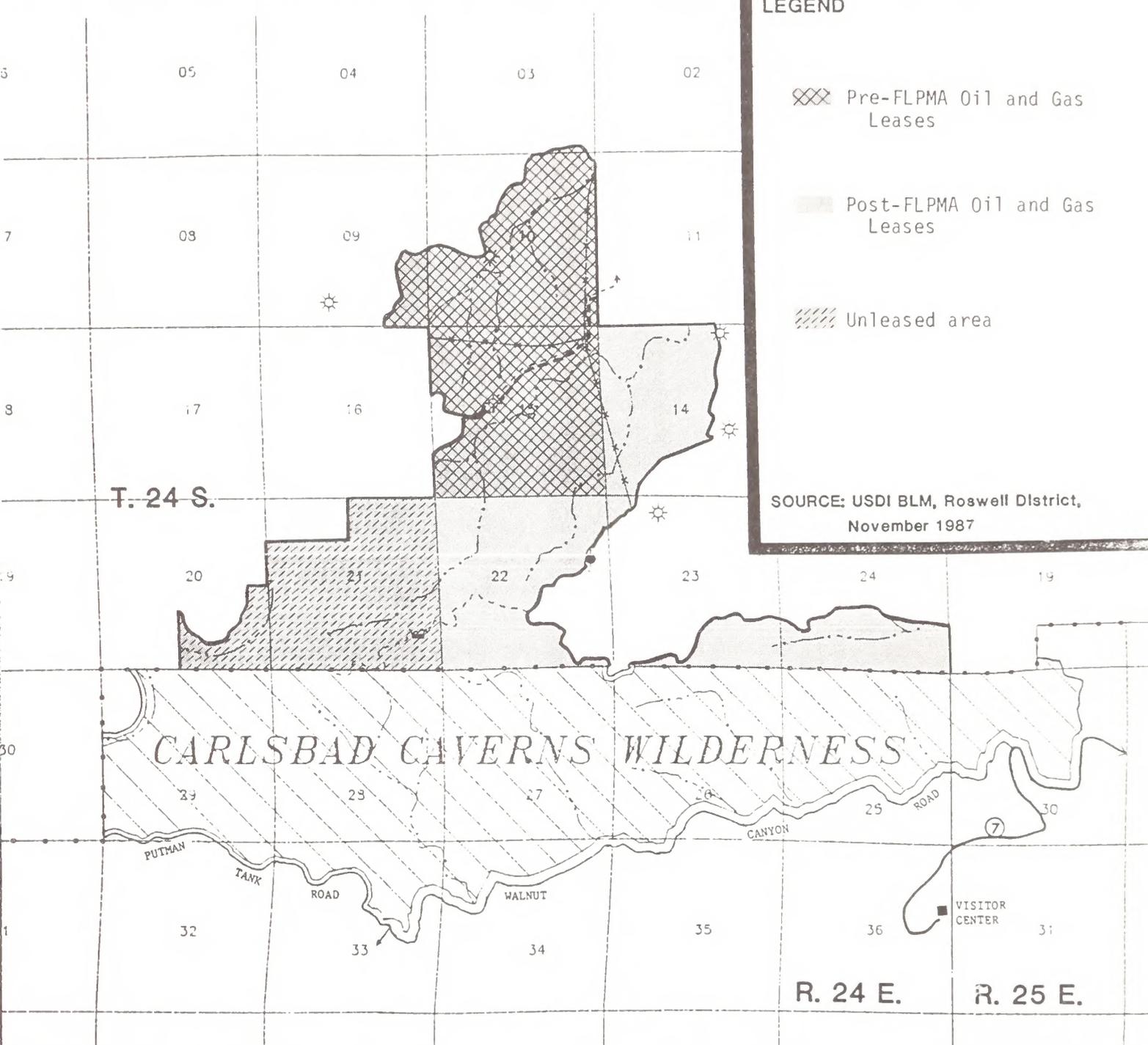
LEGEND

 Pre-FLPMA Oil and Gas Leases

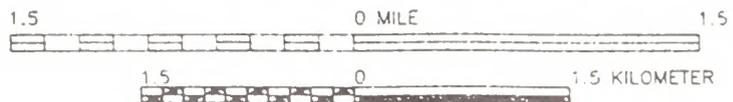
 Post-FLPMA Oil and Gas Leases

 Unleased area

SOURCE: USDI BLM, Roswell District,
November 1987



SCALE 1:50000



development activity inside the former WSA was given to Sierra Club 20 days prior to commencement of such development. The encroachment totalled an area approximately 40 feet wide by 400 feet long. The well was drilled between June and August 1984. The completed well is presently shut in until a transportation pipeline is developed.

TABLE 5

NATURAL GAS WELLS ADJACENT TO OR WITHIN THE WSA

Well Name	Operator	Location T24S, R24E ³	Status
Franklin No. 1	Gulf Oil Corp.	660 FSL, 2235 FWL Section 9	In Production
Lechuguilla Canyon No.8 ¹	Yates Petroleum Corp.	2180 FSL, 1905 FWL Section 10	In Production
Baldrige Federal No. 1	W. A. Moncrief, Jr.	2050 FSL, 1490 FEL Section 14	In Production
Baldrige Federal No. 2	W. A. Moncrief, Jr.	196 FNL, 1427 FEL Section 14	In Production
Lechuguilla Canyon No. 5	W. A. Moncrief, Jr.	2310 FNL, 1980 FWL Section 15	Dry Hole
Guadalupe Federal No. 1 ²	W. A. Moncrief, Jr.	1907 FNL, 553 FEL Section 22	Shut-In
Ridge Federal No. 1	W. A. Moncrief, Jr.	487 FNL, 1620 FWL Section 23	In Production

¹ Well drilled inside WSA under "grandfather" status.

² Well pad development encroached into WSA (see text, Mineral Development, of this section).

³ In this column, FSL means feet "from south line," FNL "from north line," FEL "from east line," and FWL "from west line" of the stated section.

All six of the oil and gas leases in the WSA are held by production (see Table 4). The entire WSA is considered an area of high potential for fluid minerals production based on current production, initial well production tests (see Map 3-1), and Known Geologic Structures (KGS) status near and within the WSA. Natural gas production from the Pennsylvanian Morrow on Federal leases from five wells in Sections 9, 10, 14, and 23, T24S, R24E in the area immediately surrounding the WSA produced 1,581,382 MCF (thousand cubic feet) during the 1985 calendar year. Although only natural

gas is currently being produced from most of the wells in the area, the W. A. Moncrief, Jr., State Well Crooked Creek State No. 1 (NE/4SW/4 Section 1, T24S, R24E) initially tested well production in the Pennsylvanian Canyon to be 43.5 barrels of oil per day (BOPD) and 2,125 MCFPD (1,000 cubic feet of natural gas per day). This enhances the possibility that future exploration for oil as well as gas may occur in this area in geologic formations above the Morrow.

WATERSHED

Mudgetts WSA lies in the Dark Canyon watershed, which is the major drainage for the east side of the northern Guadalupe Mountains. The erosion class and condition are considered moderately stable, with erosion susceptibility ranging from light to severe, depending on slope and vegetation. Good management is needed to maintain the vegetation and prevent erosion. Flood and sediment damage is estimated to be 0.5 to 1.0 acre/foot/square mile/year. There have been no projects for land treatment or erosion control in the WSA.

LIVESTOCK GRAZING

Two grazing allotments are located within this WSA. Table 6 displays grazing information pertaining to these two allotments. The WSA supports 780 Animal Unit Months or approximately 65 cattle per year.

The operators grazing livestock in the WSA ranch either as a second income or to continue family tradition. Ranching is not the primary source of income for the Serpentine Bends allotment. The Serpentine Bends allottee resides in Carlsbad, working his allotment as necessary. The Kuykendall allottee resides on the allotment, working it full time.

Existing range improvements includes about three miles of barbed wire fence within the WSA (see Map 1-1). Fence maintenance in the WSA is maintained by nonvehicular methods. Nearly two miles of additional fence is on the WSA south boundary. No new range improvements are planned for either of these allotments.

TABLE 6
RANGE ALLOTMENT INFORMATION

Allotment Name	Allotment Number	Allotment Total Federal Acres	Federal Acres in WSA	Authorized Livestock Use ¹	Season of Use
Serpentine Bends	8115	4,115	1,937	288 AUMs ² (24 cattle)	Yearlong
Kuykendall	8083	15,290	1,004	492 AUMs (41 cattle)	Yearlong

¹ Within the WSA.

² An AUM (Animal Unit Month) is the amount of forage necessary for the sustenance of one cow or its equivalent for one month.

FOREST PRODUCTS

No forest product harvesting is taking place in the WSA, and potential harvesting is not likely due to the low density of these resources.

RECREATION

A large population of deer lives within the boundaries of Carlsbad Caverns National Park, protected from hunting pressures. The WSA receives heavy hunting use, since individuals from this herd frequently drift into the WSA.

The canyon and cliffs of the Serpentine Bends portion of the WSA offer many scenic vistas.

Four limestone caves are known to exist in the WSA. All are open to the public for recreational caving, and BLM actively manages these caves to allow for recreational use while protecting the cave resources. Two of the caves require an authorized permit to enter, with both caves gated for restricted entry and visitor safety.

A few recreational vehicle users, primarily hunters, use the roads and two-track ways in and around the WSA. Due to the rugged topography, jagged limestone rock, and abundant cactus vegetation, little off-road vehicle use occurs.

EDUCATION/RESEARCH

Studies have been conducted for about three years in one of the gated caves, Little Manhole, to determine the potential and amount of damage to fragile cave formations caused by oil and gas exploration and development activities adjacent to and within the WSA.

Research is currently being done in Mudgetts Cave to determine the age of the cave formations using a uranium/Thorium process. This research will also determine paleo magnetic fields and the rotation of the earth's magnetism over the past hundreds of thousands of years.

NATIVE AMERICAN USES

No Native American religious sites have been identified in the WSA. No Native American groups have expressed needs for land use within the WSA.

REALTY ACTIONS

Several gas pipelines are located in the vicinity of the WSA. Any "grandfathered" mineral leases which would be developed in the WSA may require production transportation pipelines from the drilling site(s) to be established within the WSA, if the pipeline was developed by the "grandfathered" leaseholder.

No part of the WSA has been withdrawn from the Public Land Laws or the Mineral Entry Laws.

WILDLIFE

An inverted umbrella water storage was placed in SE/4SE/4 Section 21, T24S, R24E, for wildlife use. A fence excludes livestock use from the drinking tub off of the inverted umbrella. The storage tank has not been dry since 1981 and has provided water for game birds, song birds, raptors, rodents, mule deer, and vultures.

SECTION 4

WILDERNESS CRITERIA

EVALUATION OF WILDERNESS VALUES

Quality of Mandatory Wilderness Characteristics

Naturalness

The imprint of man's work in the WSA includes partial or total development of two natural gas well drilling pads (one with production facilities), about three miles of vehicular ways, a wildlife water system (inverted umbrella) with associated barbed wire fencing, about three miles of barbed wire fence, and two surface gate structures on two caves. It is important to note that the BLM considers the cumulative effect of these imprints upon the entire WSA when assessing naturalness, which is a function of the size of the unit and the number and distribution of the impacts. The location of these imprints are depicted on Map 1-1.

Adjacent to the WSA, and along certain portions of its boundary, the imprint of man's work is notably more evident. More than seven miles of the boundary is formed along roads. Approximately four miles of these roads are caliche surfaced and maintained for ongoing natural gas production activities. Currently, five natural gas well pads abut the boundary of the WSA, two of these (Lechuguilla Canyon No. 8 and Guadalupe Federal No. 1) encroached into the WSA as indicated above. Nearly two miles of barbed wire fence is along the WSA's south boundary. The south boundary of the WSA is contiguous with the north boundary of Congressionally designated wilderness in Carlsbad Caverns National Park.

Rugged topography of the area tends to screen some portions of the WSA from outside man-caused modifications and activities, but ridgetops and the flat northern portion of the WSA are exposed to these visual intrusions.

Overall, Mudgetts WSA has an apparently high quality of naturalness with the most intensive imprints of man's work found primarily along the periphery of the WSA.

Solitude

The BLM considers solitude as the state of being alone, removed from habitation, or in isolation. The small size of the WSA somewhat limits opportunities for solitude. However, the topography of the southernmost portion of the unit, where also the least number and degree of imprints of man's works is present, combined with the pristine character of Carlsbad Caverns National Park to the south, give a feeling of solitude. When combined with wilderness within the national park, the opportunity for solitude does exist. However, the configuration of the WSA contiguous with national park, which is dissected by a primitive road, tends to disrupt this opportunity.

The narrowed configuration of the northern portion of the WSA, defined by a combination of caliche roads on three miles of the WSA with six associated drilled natural gas wells and non-Federal adjacent landowners on two miles, does not provide as high a quality setting for solitude. The width of this portion of the WSA varies to between approximately 300 feet to 1 1/2 miles, and although the area's topography and generally rugged terrain provides about 300 vertical feet of relief, outstanding opportunities for solitude are rated only moderate to low.

Noise impacts caused by anticipated future fluid mineral drilling activities adjacent to the WSA and within "grandfathered" leases within the WSA would vary according to the proximity of visitors to the area and upon the availability of screening topography that would reduce noise levels. This localized impact is not expected to be long term in any given drilling location and would only intermittently diminish existing solitude opportunities. The exception to this would be if a well should produce oil, and affiliated production activities of a pump jack were established at a well site. The noise caused by the combustion engine used to produce oil will have an impact on opportunities for solitude in the vicinity of the well.

Other factors that contribute to solitude opportunities in the WSA consist of limited legal accessibility for the general public and low levels of visitor use. These factors would influence solitude opportunities in the WSA during the foreseeable future.

Overall, opportunities for solitude in the WSA are considered moderate, with the best opportunities located close to the south boundary of the unit, contiguous with Carlsbad Caverns National Park.

Opportunities for Primitive and Unconfined Recreation

Opportunities for primitive and unconfined types of recreation consist of hunting, hiking and backpacking, equestrian riding, cave exploration (including vertical technical rope climbing), photography, and dispersed sightseeing activities that focus on geological, botanical, and zoological resources. Hunting and cave exploration account for most of the current recreational use. Poorly distributed legal access routes limit the potential for some dispersed recreational use, particularly in the area directly associated with the Serpentine Bends of Dark Canyon.

Overall, even though there are some resource limitations, the quality of recreation opportunities in the WSA is rated as outstanding.

Special Features

Federal threatened or endangered listed and other rare flora and fauna, scenic values, and caves are the most outstanding special features in the WSA. The area supports habitat where two Federal listed threatened and three state listed endangered plant species and five state listed endangered animal species may be found.

The four known caves in the WSA are important both for recreational caving and for their fragile formations, cultural, and natural history values they possess. Recreational cavers periodically inquire about opportunities and permission to visit the caves.

The ridges and canyons of the Guadalupe Mountains are among the most scenic lands in southeastern New Mexico. The Serpentine Bends, in particular, are noted for their impressive limestone cliffs and sweeping bends of the stream course. Vistas to the west of the WSA include higher ridges of the western half of Carlsbad Caverns National Park and the main escarpment of the Guadalupe Mountains in Lincoln National Forest.

Multiple Resource Benefits

Recreation values and uses in the WSA that would be perpetuated through wilderness designation and protective management include fauna and flora habitat and associated sensitive species, cultural values, cave resource values, nonmotorized recreational activities, and scenic values.

Congressional designation as wilderness would carry the weight of law and would provide a greater degree of long term protection for natural values than would the administrative designations available to the Bureau.

Diversity in the National Wilderness Preservation System

Ecotypes

Ecosystem/landform diversity is described as type 3210, Chihuahuan Desert Province, according to the Bailey-Kuchler (USDA, FS, 1980) System. Similar ecosystem/landform areas are presently protected by wilderness status in Carlsbad Caverns and Guadalupe Mountains National Parks. Designation of Mudgetts WSA as wilderness would serve to enlarge the protected area.

Distance from Major Population Centers

The WSA is within 3 hours driving time from El Paso, Texas, and within 6 hours driving time from Lubbock, Midland and Odessa, Texas, and Albuquerque and Santa Fe, New Mexico.

MANAGEABILITY

To be recommended as suitable, the WSA must be capable of being effectively managed as wilderness. To determine manageability, the BLM must consider such factors as private inholdings, state lands, valid existing rights, mineral leases, rights-of-way, and the overall pattern of land status.

There are no private or state inholdings in the WSA. The boundary of the WSA was intentionally drawn to include only BLM-administered lands. The southern boundary of the WSA is contiguous with existing wilderness in Carlsbad Caverns National Park. Other boundaries are formed by state or private land boundaries, or by roads.

The entire WSA contains no mining claims but is leased for oil and gas. Three of the leases were obtained prior to 1976, giving the leaseholders valid existing rights for oil and gas exploration and development, according to IMP. These three leases are included within the Lechuguilla Canyon Unit which includes part of the WSA. After BLM identified the WSA, one of the leaseholders was authorized to drill the Lechuguilla Canyon No. 8 well inside the WSA because of "grandfathered" lease development rights. This well is now in production. It is expected that the Unit operators will want to continue drilling on their three leases which affect the WSA. According to New Mexico Oil Conservation Division spacing requirements for gas development, the leaseholder could drill at least three more natural gas wells inside the WSA.

Manageability could be enhanced by removing approximately 711 acres located in the northernmost portion of the WSA (see Map 1-1). This acreage abuts predominately state owned land to the east and west, and Federal land to the north with a caliched road and two developed well pads. One of these pads is the producing Lechuguilla Canyon No. 8 natural gas well within the WSA. The southern boundary of this removed area would include an existing vehicular way nearly a mile long that dissects the WSA at this point. Removal of this acreage would remove most of the "grandfathered" oil and gas lease land and also eliminate this narrowed configuration of the WSA which otherwise impacts opportunities for solitude in this area. However, 420 acres of the pre-FLPMA "grandfathered" lease would still be within the WSA and subject to possible oil and gas exploration and development activities associated with at least one drilling location. Such activity would hamper BLM's ability to manage the amended WSA acreage as wilderness.



SEVERAL ROADS WHICH FORM THE WSA
BOUNDARIES HAVE BEEN RECENTLY UPGRADED
FOR OIL AND GAS DEVELOPMENT

SECTION 5

IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

This section discusses three alternatives for the Mudgetts WSA: All Wilderness, Amended Boundary, and No Wilderness--manage public lands as prescribed in the Carlsbad Resource Area Final Resource Management Plan/Environmental Impact Statement (CRA Final RMP/EIS).

ALL WILDERNESS ALTERNATIVE

Under this alternative, the entire 2,941 acres of public lands within the WSA would be recommended as suitable for wilderness designation. If designated wilderness, the existing and potential uses would be managed under the constraints of BLM's Wilderness Management Policy (1981).

Impacts on Wilderness

The existing natural character of the area would be altered by any future development on existing "grandfathered" leases of three or more natural gas exploration wells, their production facilities, and their associated access roads. This could occur on 1,131 acres in the northern portion of the WSA. Wherever reasonable, attempts would be made to place these lease developments outside the wilderness boundary to avoid undue encroachment into the area. Development of four additional producing gas wells along the boundary of the area since the WSA was identified has impacted opportunities of solitude within the area. Two of these encroach into the WSA. Opportunities for solitude would be further degraded wherever development on "grandfathered" pre-FLPMA leases occurred within the area. Opportunities for primitive and unconfined recreation would be maintained wherever lease development does not occur.

The special features of the area would be adequately protected, including the high quality scenic values, and any rare plant or animal species and their habitats in the area. The Federal listed threatened and endangered plant species would not be impacted. The U.S. Fish and Wildlife Service has concurred with BLM's finding of no effect on species either Federally listed or proposed for listing as threatened or endangered (T&E).

Restricting surface-disturbing and mechanized activities associated with ORV use would prevent increased access and provide long term protection of existing natural resources, and partially prevent cultural modifications to the naturalness of the area.

Congressional designation of the area as wilderness would do little to help meet the region's demand for wilderness recreation opportunities. Presently, wilderness use in the contiguous national park is considered low, with long term projections indicating only a gradual increase in this level of use. The area's comparatively small size would not attract large numbers of visitors when recognizing that wilderness values and use opportunities of the national park matches or exceeds Mudgetts wilderness values.

Conclusion: Except on 1,131 acres where impacted by existing pre-FLPMA "grandfathered" rights of mineral leaseholders, Congressional designation would preserve the existing wilderness resources of the recommended wilderness area. The protection, however, would primarily be limited to 1,810 acres in its southernmost portion.

Impacts on Existing and Potential Mineral Development

It is reasonable to assume that all mineral resources would be withdrawn from appropriation, and Congress would not establish special provisions for mineral exploration or development within the designated wilderness. Valid existing rights would be allowed to continue to be exercised according to the BLM Wilderness Management Policy.

Wilderness designation would have an effect on gas field development in the area. The oil and gas leaseholders in the WSA believe that the natural gas reservoir which they are currently developing extends in a southwestward direction, essentially through the center of the WSA. Due to the "grandfathered" status of three leases (which are unitized) that affect 1,131 acres of the WSA, a minimum of three more gas wells (for a minimum total of six) could yet be developed in the WSA by two of the leaseholders: two wells in Section 15, T24S, R24E by Marathon Oil Company, and one in the south 1/2 Section 10, T24S, R24E, by Sinclair Oil and Gas Company. More than these three natural gas wells could be drilled until one producing gas well is located in each of the half sections (320 acres each) that make up these two leases. The third "grandfathered" leaseholder, Gulf Oil Corporation, has a producing gas well in Section 9, T24S, R24E, which includes a portion of the WSA. Under wilderness designation, the three leases held by W. A. Moncrief, Jr., et. al. (see Table 4) would not be allowed to be drilled inside the recommended wilderness boundaries since their drilling rights are not "grandfathered." Their lease that covers Sections 21 and 22, T24S, R24E, appears to run along the natural gas reservoir trend line. Section 14, T24S, R24E, leased to El Paso Natural Gas, already has two producing natural gas wells, both located outside of the recommended wilderness area (see Map 1-1).

No demand for caliche material in the WSA is expected because existing caliche pits nearby are expected to meet any future anticipated needs in the area.

Conclusion: The unitized pre-FLPMA "grandfathered" oil and gas leases would be allowed to continue to be developed. This could occur in two leases where up to 3 producing gas wells could conceivably be developed. The amount of any remaining potential natural gas not retrieved in three other post-FLPMA leases would, though significant to the specific leases, be a comparatively low amount relative to all of the natural gas presently being produced within the region.

Impacts on Livestock Grazing Use Levels

Range improvements, if any needed, would be constructed only for improved management of livestock or for resource protection, and not for the purpose of increasing herd sizes. Motorized use on 3 miles of existing vehicular ways would be restricted as well as the use of vehicles to maintain fences.

Conclusion: Wilderness designation would result in an inconvenience to the livestock operators. No impact would occur to existing livestock grazing use levels.

Impacts on Caves

All caves and their natural setting would be given maximum protection by wilderness designation. Restricted vehicular access near some caves would prevent increased abuse and vandalism of cave resources.

Conclusion: The cave resource would receive maximum protection and therefore be maintained within designated wilderness.

AMENDED BOUNDARY ALTERNATIVE

Under this alternative, 2,230 acres of public land within the WSA would be recommended for wilderness designation (see Map 1-1). The amended boundary would exclude 711 acres of public land in the north portion of the WSA where its configuration is narrowed and all of which is leased with pre-FLPMA "grandfathered" rights to explore and develop oil and gas minerals. If the area within the amended boundary is designated wilderness, all existing and potential uses would be managed under the BLM's Wilderness Management Policy.

Impacts on Wilderness Values

The boundary adjustment would exclude the two gas well production surface disturbances mentioned under the All Wilderness Alternative. One vehicular way one mile long and two miles of fence would also be excluded. Drilling of up to two producing natural gas wells on 420 acres of one pre-FLPMA "grandfathered" oil and gas lease, Marathon Oil Company (Sec. 15, T24S, R24E), would be allowed to occur in the narrower northern section of the recommended wilderness area.

Development of three producing gas wells along the border of the area since the WSA was identified has further impacted opportunities of solitude within the area. Other impacts on wilderness values and projected wilderness recreation demand are the same as stated in the All Wilderness Alternative, except that moderate impacts could occur on preferred habitat for three state listed endangered animal species (eastern barking frog, varied bunting, and New Mexico ramshorn snail).

Conclusion: Wilderness values would be slightly degraded from oil and gas exploration and development in the area recommended suitable for wilderness. In the areas recommended nonsuitable, wilderness values would be lost due to exploration and development of oil and gas resources.

Impacts on Existing and Potential Mineral Development

Impacts on mineral exploration and development would be the same as stated in the All Wilderness Alternative except for 711 acres in the north portion. This reduction would partially eliminate wilderness conflicts with the pre-FLPMA oil and gas leases. A portion of one pre-FLPMA lease, 420

acres, would remain within the recommended wilderness area on which two producing natural gas wells could conceivably be developed.

Conclusion: There would be no significant impact on existing and potential mineral development of pre-FLPMA leases. Impacts on post-FLPMA leases would be the same as stated under the All Wilderness Alternative.

Impacts on Livestock Grazing Use Levels

Impacts to livestock grazing would be the same as those stated in the All Wilderness Alternative except that an additional one mile of existing vehicular trail would be open to conduct livestock operations.

Impacts on Caves

Impacts would be the same as stated in the All Wilderness Alternative, except that undiscovered caves in the excluded area could be inadvertently impacted by surface or subsurface (drilling) disturbances.

NO WILDERNESS ALTERNATIVE (Proposed Action)

Since the decision in 1980 to approve Mudgetts as a Wilderness Study Area, a comprehensive land use planning effort has been initiated in the Carlsbad Resource Area which recommends land and mineral use allocations for all public lands and minerals within the resource area. This effort is called a Resource Management Plan (RMP). The Carlsbad Resource Area Final RMP and associated Environmental Impact Statement (EIS) was released for public review and comment on September 30, 1986. The Proposed Plan of this document would provide special management of about 1,100 acres of the 2,941-acre WSA, if the WSA or any portion of it is not designated as wilderness. For purposes of analysis in this report, the management prescriptions of the September 30, 1986, issue of the final RMP and its associated supplemental information for the RMP released on January 2, 1987, is used.

This 1,100 acres would be designated as part of the 1,480-acre Dark Canyon Area of Critical Environmental Concern (ACEC); see Map 1-1. Proposed management prescriptions include the 1,100 acres to be affected by two management zones of the ACEC. Both zones would limit vehicular use to designated routes, be closed to mineral material sales, protect the four known caves, and restrict surface-disturbing activities.

Zone 1 would include 370 acres of the 1,100 acres. This zone would also have a no surface occupancy (NSO) stipulation applied on any reissued oil and gas leases (all post-FLPMA) and the area would be managed in accordance with visual resource management (VRM) class II objectives.

Zone 2 would include 730 acres of the 1,100 acres. It would be managed in accordance with VRM class III objectives, except for 100 acres surrounding two of the known caves which would be managed as VRM class II. Oil and gas development activities would be allowed on 630 acres but with drilling activities permitted only between November 16 and March 31 to protect highly sensitive visual values from primary observation points adjacent to the

area. Seismic operations and any surface disturbing activities which could cause damage to cave resources would be prohibited in 150 acres which surrounds the 4 known caves within both zones. The caves would not be subject to leasing of solid leasable minerals. In the 630 acres of zone 2 where oil and gas operations may be conducted, a special stipulation would prohibit drilling within a minimum of 300 feet of any significant cave feature, or drilling circulation pit placement from within 600 feet of any significant cave feature.

The Carlsbad Resource Area Final RMP recommends the remaining 1,841 acres of the WSA not included in the Dark Canyon SMA to be subject to multiple resource uses in accordance with existing laws and BLM policy, guidance and regulations. VRM class III objectives would apply, the area would be designated open to vehicular use, and oil and gas development could occur with a special stipulation which would prohibit drilling from within a minimum of 300 feet and prevent drilling circulation pit placement from within 600 feet of any significant cave feature.

In the 2,941 acres not designated as wilderness, unavoidable adverse effects of the proposed action will result from future surface disturbance activities. Over the long term, these activities will reduce the quality of wilderness values by adversely affecting naturalness, opportunities for solitude, and primitive recreation and special wilderness features. Also, cumulative short-term consumptive uses of this land will lead to long-term degradation of wilderness values. Nondesignation of 2,941 acres as wilderness would leave this acreage available for development which could irreversibly degrade wilderness values which could foreclose the option of wilderness designation in the future.

Impacts on Wilderness Values

There would be no long term special protection given to wilderness values. Opportunities for solitude would diminish proportional to oil and gas development of the area. The level of naturalness would be diminished. The special features of the area would receive adequate protection from existing laws that protect T&E species, and from management prescriptions proposed for the Dark Canyon ACEC to protect important cave resources, high visual values, peregrine falcon habitat, and for most of state listed endangered species. Opportunities for recreational caving would be available and even increase with increased access, but expected recreational experiences for this activity would diminish with increased impacts of oil and gas lease development or other surface disturbing activities near the caves.

Conclusion: Due to the relatively small size of the WSA and the high potential for natural gas, in the long term wilderness values would be lost in this area from exploration and development activity. The wilderness values impacted the greatest would be the area's naturalness and the opportunity for solitude and primitive and unconfined recreation.

Impacts on Existing and Potential Mineral Development

This alternative would have less impact on mineral resources than the other two alternatives. Although a total of 470 acres would be subject to

a no surface occupancy stipulation, it is reasonable to assume that gas reserves can be reached by careful selection of drilling pad location or by applying directional drilling methods if needed.

Conclusion: Overall, there would be no significant impact on development of minerals. Where a no surface occupancy stipulation would apply, additional costs associated with directional drilling performed would be a moderate impact to the leaseholder.

Impacts on Livestock Grazing Use Levels

Impacts on livestock grazing would be the same as the All Wilderness Alternative except that 3 additional miles of existing vehicular ways would be available to conduct grazing operations.

Conclusion: There would be no significant impact on livestock grazing.

Impacts on Caves

Protective management provided in the Carlsbad Resource Area Final RMP would provide appropriate measures to protect the caves and other sensitive resources. However, these measures are not as permanent as wilderness designation and not as easily enforceable. Therefore, a much greater effort would be required to avoid damage to fragile cave features and other sensitive resources which could be caused by seismic, drilling, and road construction activities.

Conclusion: Special features found in the area, including cave resources and high visual qualities, could be subject to greater abuse or damage in the long term if managed by administrative actions rather than if protected in a designated wilderness area.

SECTION 6

CONSULTATION AND COORDINATION

PUBLIC INVOLVEMENT OVERVIEW

This report was proposed after considering information and comments provided by the public. Public views concerning BLM's recommendation for this WSA will continue to be requested and considered during the preparation of the Statewide Wilderness EIS.

During the public comment period on wilderness study area proposals, public opinion was mixed, with nine people wanting it dropped from further study and ten people wanting it kept in the wilderness review process.

The Secretary of Interior in December 1982 issued an action which removed from wilderness study all areas with Federal surface ownership and private mineral estate and areas of less than 5,000 acres. Mudgetts was affected by this action since it is 2,941 acres in size. A court decision issued in April 1985 reversed the Secretarial action and has the effect of reinstating Mudgetts WSA into the BLM's wilderness review program. However, because of its removal by the Secretary, the Mudgetts WSA was not included in either the draft or final Roswell District wilderness environmental assessment documents, published in March 1983 and August 1984, respectively. The WSA was also not included in the New Mexico Statewide Wilderness Study Draft Environmental Impact Statement, published in May 1985. The omission of this WSA in these three documents allowed no formal opportunity for the public to provide comment during the public review periods of these documents.

Representative John Sieberling introduced to Congress in February 1983 House Bill 1214 which, in part, would have provided for the transfer of administrative jurisdiction of Mudgetts WSA to the National Park Service (NPS), to be managed as designated wilderness by Carlsbad Caverns National Park. After study of the Bill, the NPS recommended to Mr. Sieberling in September 1984 that the WSA not be transferred to their agency. Rationale provided by the NPS included the area not possessing resources or recreation opportunities that are significant, the prohibitive expense of acquiring existing oil and gas leases, and anticipated public opposition from hunters, ranchers, and off-road vehicle users.

In March 1986, a large mailing was conducted which informed the public of the reinstatement of Mudgetts as a WSA and requested input about the three alternatives and specific impacts that these alternatives would have on the resources of this WSA.

A total of 100 responses were received. The All Wilderness Alternative was favored by five respondents, no one indicated preference for the Amended Boundary Alternative, while 87 preferred the No Wilderness Alternative. An alternative preference was not indicated by nine respondents.

During the public comment period on the New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement (BLM 1986), specific comments were directed to the Mudgetts WSA by 23 commentators. Specific comments and responses on this WAR which require a response are discussed and responded to in this section.

No. 0513

Name: Joe McGloin

Comment: ". . .the rare plants and animals in this area need the protection that wilderness will give. By excluding from the wilderness recommendation, the northern portion of the WSA, nearly all of the gas and oil conflicts will be resolved. This is an important addition to the Carlsbad Wilderness Area. I suggest that the BLM reconsider this WSA and recommend the areas adjacent to the Carlsbad wilderness as wilderness."

Response: Listed or candidate threatened or endangered species are protected under the Endangered Species Act of 1973. Wilderness designation is not required to provide adequate protection for these species. Prior to approval of any proposed action which affects public land and resources, the action's impacts are analyzed with appropriate mitigative measures applied as required in accordance with the National Environmental Protection Act of 1969.

Under the Amended Boundary alternative, 420 acres of pre-FLPMA "grandfathered" leased land would remain in the 2,230-acre WSA and be subject to lease development of up to two producing natural gas wells under "grandfathered" rights. Any future development within the "grandfathered" leased land or bordering the WSA would increase impacts to existing moderate opportunities for solitude in the WSA, alter outstanding opportunities for unconfined types of recreation, and cause adverse impacts on high quality naturalness within the WSA, thus compromising the area's suitability for wilderness management.

No. 0703

Name: David R. McClurg, Carlsbad Citizens for Responsible Land Management

Comment: "Contrary to your recommendation, we support wilderness designation for the Mudgetts WSA (NM-060-819/819A). We feel that wilderness designation is probably the only way to protect the area from additional surface disturbances of new oil and gas leases."

Response: The area is noted for its high potential for oil and gas minerals. If designated wilderness, the Bureau of Land Management (BLM) would be unable to prevent oil and gas development on 1,131 acres of the area due to pre-FLPMA "grandfathered" rights for these leased minerals. Under the Amended Boundary alternative, 420 acres of pre-FLPMA "grandfathered" leased land would be subject to development.

No. 0703 (concluded)

It is the BLM's position that management of 1,100 acres of the WSA as the Dark Canyon Area of Critical Environmental Concern (ACEC) would adequately mitigate surface impacts caused by oil and gas development. By restricting oil and gas drilling in 730 acres of the ACEC during the high visitor use period from April 1 to September 15, significant impacts caused by mineral exploration would be mitigated. On 370 acres, new leases would be reissued with a no surface occupancy restriction.

No. 0740

Name(s): Douglas Faris, National Park Service

Comment: "We strongly recommend that the Amended Boundary Alternative be selected for the Mudgetts WSA (NM-060-819/819A).

In 1984, the National Park Service (NPS) was asked by Congressman Seiberling to prepare its own resource assessments as to the desirability of adding the Mudgetts WSA to Carlsbad Caverns National Park. Our decision at that time was to recommend that this area need not be added to the national park. However, this decision is no way inferred that the area was unsuitable for wilderness designation by the BLM or that the area did not deserve maximum protection. In fact, our recommendation not to add the Mudgetts area to the park was based largely on our belief that the BLM would be able to provide maximum protection to this unit and that the park would be mutually benefitted by this protection.

The NPS has in the past expressed concern to the BLM about the continuous encroachment of oil and gas drilling operations into the viewsheds of Carlsbad Caverns National Park. The area immediately surrounding the Mudgetts WSA has been the subject of past cooperative efforts by the BLM and NPS in attempting to mitigate the effects of visual and aesthetic impacts resulting from drilling rigs being placed on the horizon line as viewed by park visitors standing at ground level, and those using the observation deck at the park's visitor center. We feel that the three existing leases encompassing Sections 20, 21, 22, 23, and 24 (T24S, R24E) of the WSA represent a significant threat to these same resources and would request further cooperation from the BLM in mitigating the effects of these additional wells.

The Dark Canyon Special Management Area, Area of Critical Environmental Concern (ACEC), identified in the Carlsbad Resource Area Draft Resource Management Plan and Environmental Impact Statement, identifies the Mudgetts WSA portion of the ACEC only as a type "2" Management Zone. This designation has no real capacity to protect the area from further impacts from oil and gas development. In fact, even Zone 1 designation for the ACEC

No. 0740 (concluded)

offers no real capacity for BLM to protect the WSA from existing leases since two of these leases are identified as being "held by production." This leaves the NPS with the option of simply living with the potential impacts of these wells or doing what it reasonably can to attempt to prevent this impact. Since the pre-FLPMA oil and gas leases in the WSA are valid in spite of wilderness designation and post-FLPMA leases can be constrained by "no surface disturbance" caveats under wilderness designation, we recommend the Amended Boundary alternative as identified above."

Response: The Amended Boundary Alternative was not adopted as the proposed action for Mudgetts WSA because of the conflict wilderness designation would have with development of high potential oil and gas resources. The Amended Boundary Alternative was not selected because there still would be a potential for development of 420 acres of pre-FLPMA "grandfathered" oil and gas lease area with valid existing rights which would prevent BLM from protecting wilderness values. Also, three producing gas wells and one shut-in gas well that have been developed since Mudgetts WSA was identified have degraded solitude opportunities on the eastern side of the WSA.

It is the BLM's position that management of 1,100 acres of the WSA as part of the Dark Canyon Area of Critical Environmental Concern (ACEC) would adequately mitigate visual and aesthetic impacts caused by oil and gas development. By restricting oil and gas drilling in 730 acres of the ACEC during the high visitor use period from April 1 to September 15, significant impacts caused by mineral exploration will be mitigated. BLM also proposes that new leases reissued on 370 acres of the ACEC will contain a no surface occupancy restriction. BLM will continue to work in a cooperative manner with the Park Service to mitigate the visual and aesthetic effects of resource development activities on lands that BLM administers.

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